

DataArts Studio

API Reference

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1 Before You Start

1.1 Overview

Welcome to DataArts Studio. DataArts Studio is a one-stop operations platform that provides data lifecycle management and intelligent data management for enterprises' digital operations. It provides functions such as DataArts Migration, DataArts Architecture, DataArts Factory, DataArts Quality, DataArts Catalog, and DataArts DataService. DataArts Studio supports intelligent construction of industrial knowledge libraries as well as data foundations such as big data storage and big data computing and analysis engines. DataArts Studio helps you quickly construct intelligent end-to-end data systems from data ingestion to data analysis. It helps eliminate data silos, unify standards, accelerate monetization, and generally assist with digital transformation.

This document describes how to use APIs to perform operations on DataArts Studio components, such as creating clusters and connections. For details about all supported operations, see [API Overview](#).

Before calling a DataArts Studio API, ensure that you have fully understood the concepts related to DataArts Studio. For details, see [Service Overview](#).

1.2 API Calling

DataArts Studio provides REST APIs, allowing you to call APIs using HTTPS.

For details about how to call APIs, see [Calling APIs](#).

- [Making an API Request](#)
- [Authentication](#)
- [Response](#)

1.3 Concepts

- Domain
A domain has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions.

The domain should not be used directly to perform routine management. For security purposes, create users and grant them permissions for routine management.

- User

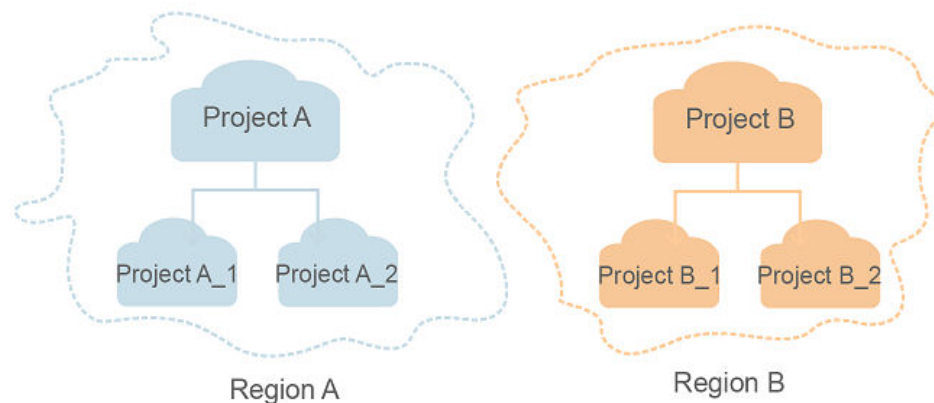
A user is created in Identity and Access Management (IAM) to use cloud services. Each user has its own identity credentials (password and access keys).

You can view the account ID and user ID in [Project ID and Account ID](#). The domain name, username, and password will be required for API authentication.

- Project

A project corresponds to a region. Projects group and isolate resources (including compute, storage, and network resources) across physical regions. Users can be granted permissions in a default project to access all resources in the region associated with the project. If you want more refined access control, create subprojects under a project and create resources in the subprojects. Then, grant users the permissions to access only specific resources in the subprojects.

Figure 1-1 Project isolating model



1.4 Endpoints

Obtaining an Endpoint

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions.

DataArts Studio endpoints are in the following formats. Select an endpoint based on your service requirements.

- DataArts Migration (or CDM) APIs: `cdm.{region_id}.myhuaweicloud.com`. See [Table 1-1](#) for details.
- DataArts Factory V1 APIs: `dayu-dlf.{region_id}.myhuaweicloud.com`. See [Table 1-2](#) for details.
- DataArts Factory V2 APIs: `dayu.{region_id}.myhuaweicloud.com`. See [Table 1-2](#) for details.

Table 1-1 CDM endpoints

Region Name	Region ID	Endpoint	Protocol
CN-Hong Kong	ap-southeast-1	cdm.ap-southeast-1.myhuaweicloud.com	HTTPS
AP-Bangkok	ap-southeast-2	cdm.ap-southeast-2.myhuaweicloud.com	HTTPS
AP-Singapore	ap-southeast-3	cdm.ap-southeast-3.myhuaweicloud.com	HTTPS
LA-Sao Paulo1	sa-brazil-1	cdm.sa-brazil-1.myhuaweicloud.com	HTTPS
LA-Santiago	la-south-2	cdm.la-south-2.myhuaweicloud.com	HTTPS
LA-Mexico City1	na-mexico-1	cdm.na-mexico-1.myhuaweicloud.com	HTTPS

Table 1-2 DataArts Factory endpoints

Region Name	Region ID	V1 API Endpoint	V2 API Endpoint	Protocol
CN-Hong Kong	ap-southeast-1	dayu-dlf.ap-southeast-1.myhuaweicloud.com	dayu.ap-southeast-1.myhuaweicloud.com	HTTPS
AP-Bangkok	ap-southeast-2	dayu-dlf.ap-southeast-2.myhuaweicloud.com	dayu.ap-southeast-2.myhuaweicloud.com	HTTPS
AP-Singapore	ap-southeast-3	dayu-dlf.ap-southeast-3.myhuaweicloud.com	dayu.ap-southeast-3.myhuaweicloud.com	HTTPS
LA-Sao Paulo1	sa-brazil-1	dayu-dlf.sa-brazil-1.myhuaweicloud.com	dayu.sa-brazil-1.myhuaweicloud.com	HTTPS
LA-Santiago	la-south-2	dayu-dlf.la-south-2.myhuaweicloud.com	dayu.la-south-2.myhuaweicloud.com	HTTPS
LA-Mexico City1	na-mexico-1	dayu-dlf.na-mexico-1.myhuaweicloud.com	dayu.na-mexico-1.myhuaweicloud.com	HTTPS

1.5 Project ID and Account ID

Obtaining a Project ID and Account ID

A project is a group of tenant resources, and an account ID corresponds to the current account. The IAM ID corresponds to the current user. You can view the project IDs, account IDs, and user IDs in different regions on the corresponding pages.

1. Register with and log in to the management console.
2. Hover the cursor on the username in the upper right corner and select **My Credentials** from the drop-down list.
3. On the **API Credentials** page, obtain the account name, account ID, IAM username, and IAM user ID, and obtain the project and its ID from the project list.

Obtaining a Project ID by Calling an API

You can obtain the project ID by calling the API to [query project information](#). The API is GET `https://{Endpoint}/v3/projects`, in which {Endpoint} is the IAM endpoint and can be obtained from IAM documentation.

For details about API authentication, see [Authentication](#).

The following is a response example. The value of `id` under `projects` is the project ID. If multiple IDs are returned, obtain the desired one based on your actual region (name).

```
{
  "projects": [
    {
      "domain_id": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "region-name",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
      },
      "id": "a4a5d4098fb4474fa22cd05f897d6b99",
      "enabled": true
    }
  ],
  "links": {
    "next": null,
    "previous": null,
    "self": "https://www.example.com/v3/projects"
  }
}
```

1.6 Instance ID and Workspace ID

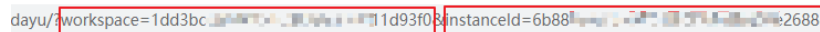
Obtaining a DataArts Studio Instance ID and Workspace ID

To obtain a DataArts Studio instance ID and workspace ID, perform the following steps:

1. On the DataArts Studio console, locate a workspace and click any module, such as **Management Center**.
2. On the **Management Center** page, obtain the values of **instanceId** and **workspace** in the browser address bar, which are the instance ID and workspace ID, respectively.

As shown in [Figure 1-2](#), the instance ID is **6b88...2688**, and the workspace ID is **1dd3bc...d93f0**.

Figure 1-2 Obtaining the instance ID and workspace ID



dayu/?workspace=1dd3bc...1d93f0&instanceId=6b88...2688

1.7 Constraints

- An IAM user can pass the authentication and access DataArts Studio through an API or SDK only if **Programmatic access** is selected for **Access Type** during the creation of the IAM user.
- For details about the API request throttling limit of each component, see [API Overview](#).
- The restrictions on DataArts Catalog APIs are as follows:
 - CDM jobs carry large volumes of data, which increases the database load. You are advised to periodically delete unused jobs.
 - If a large number of jobs are delivered in a short period, cluster resources may be exhausted.
 - CDM is a batch offline migration tool. You are advised not to create a large number of small jobs using CDM.
- For the constraints of other modules' APIs, see their API descriptions.

2 API Overview

2.1 DataArts Migration API Overview

Table 2-1 DataArts Migration API types

Type	Description
Cluster Management	Cluster management APIs
Job Management	Job management APIs
Link Management	Link management APIs

Cluster Management

Table 2-2 Cluster Management

API	Description	Throttling Policy
Querying Cluster Details	This API is used to query cluster details.	cdm_common
Deleting a Cluster	This API is used to delete a cluster.	cdm_b
Querying All AZs	This API is used to query all AZs of a CDM cluster.	cdm_common
Querying Supported Versions	This API is used to query the versions supported by CDM clusters.	cdm_c
Querying Version Specifications	This API is used to query all compatible specifications by version ID.	cdm_common

API	Description	Throttling Policy
Querying Details About a Flavor	This API is used to query the details of a flavor with a specified ID.	cdm_common
Querying the Enterprise Project IDs of All Clusters	This API is used to query the enterprise project IDs of all clusters in the current project.	cdm_common
Querying the Enterprise Project ID of a Specified Cluster	This API is used to query the enterprise project ID of a specified cluster.	cdm_common
Querying an Instance in a Cluster	This API is used to query a specified instance in a cluster.	cdm_common
Modifying a Cluster	This API is used to modify the configuration of a CDM cluster.	cdm_common
Restarting a Cluster	This API is used to restart a cluster.	cdm_b
Starting a Cluster	This API is used to start a cluster.	cdm_b
Stopping a Cluster (To Be Taken Offline)	This API is used to stop a cluster.	cdm_b
Creating a Cluster	This API is used to create a cluster.	cdm_a
Querying the List of Clusters	This API is used to query the cluster list.	cdm_common

Job Management

Table 2-3 Job management

API	Description	Throttling Policy
Querying Jobs	This API is used to query jobs.	cdm_common
Deleting a Job	This API is used to delete a job.	cdm_job
Modifying a Job	This API is used to modify a job.	cdm_job_create

API	Description	Throttling Policy
Creating and Executing a Job in a Random Cluster	This API is used to create and execute a job in a random cluster.	cdm_common
Stopping a Job	This API is used to stop a job.	cdm_job
Creating a Job in a Specified Cluster	This API is used to create a job in a specified cluster.	cdm_job_create
Starting a Job	This API is used to start a job.	cdm_job_start
Querying Job Status	This API is used to query the job status.	cdm_d
Querying Job Execution History	This API is used to query the job execution history.	cdm_common

Link Management

Table 2-4 Link management

API	Description	Throttling Policy
Creating Links	This API is used to create a link.	cdm_common
Querying Links	This API is used to query links.	cdm_common
Deleting a Link	This API is used to delete a link.	cdm_common
Modifying a Link	This API is used to modify a link.	cdm_common

Reference: Throttling Policy Details

Table 2-5 DataArts Migration API throttling policy

Throttling Policy Name	Policy Type	Maximum API Requests per Minute	Maximum User Requests per Minute
cdm_a	Shared throttling (applies to all APIs of this policy)	100	5

Throttling Policy Name	Policy Type	Maximum API Requests per Minute	Maximum User Requests per Minute
cdm_b	Shared throttling (applies to all APIs of this policy)	200	20
cdm_c	Shared throttling (applies to all APIs of this policy)	6000	50
cdm_d	Shared throttling (applies to all APIs of this policy)	6000	120
cdm_job	Shared throttling (applies to all APIs of this policy)	6000	1200
cdm_job_create	Shared throttling (applies to all APIs of this policy)	6000	1200
cdm_job_start	Shared throttling (applies to all APIs of this policy)	6000	1200
cdm_common	Shared throttling (applies to all APIs of this policy)	6000	120

2.2 DataArts Factory API (V1) Overview

Table 2-6 DataArts Factory API (V1) types

Type	Description
Connection Management (to Be Taken Offline)	Connection management APIs NOTE The connection management capability is provided by Management Center. This API is no longer maintained. You are advised to use the APIs in Management Center for connection management.
Script Development	Script development APIs
Resource Management	Resource management APIs
Job Development	Job development APIs

Connection Management (to Be Taken Offline)

Table 2-7 Connection management (to be taken offline)

API	Description	Maximum API Requests per Second	Maximum User Requests per Second
Creating a Connection (to Be Taken Offline)	This API is used to create a connection.	None	None
Querying a Connection List (to Be Taken Offline)	This API is used to query a connection list.	None	None
Querying Connection Details (to Be Taken Offline)	This API is used to query details of a connection.	None	None
Modifying a Connection (to Be Taken Offline)	This API is used to edit a connection.	None	None
Deleting a Connection (to Be Taken Offline)	This API is used to delete a connection.	None	None
Exporting a Connection (to Be Taken Offline)	This API is used to export all connection information that is compressed in ZIP format.	None	None
Importing a Connection (to Be Taken Offline)	This API is used to import one or more connection files from OBS to the Data Development module.	None	None

Script Development

Table 2-8 Script development

API	Description	Maximum API Requests per Second	Maximum User Requests per Second
Creating a Script	This API is used to create a script.	300	30
Modifying a Script	This API is used to modify the configuration items or script contents of a script.	300	30
Querying Script Details	This API is used to query a script, including the script type and script content.	300	30
Querying a Script List	This API is used to query a script list.	300	30
Querying the Execution Result of a Script Instance	This API is used to obtain the execution status and result of a script instance.	300	30
Deleting a Script	This API is used to delete a specific script.	300	30
Executing a Script	This API is used to execute a specified script. Each time a script is executed, a script instance is generated.	300	30
Stopping Executing a Script Instance	This API is used to stop executing a script instance.	300	30

Resource Management

Table 2-9 Resource management

API	Description	Maximum API Requests per Second	Maximum User Requests per Second
Creating a Resource	This API is used to create a resource.	100	10
Querying a Resource List	This API is used to query a resource list.	100	10
Modifying a Resource	This API is used to modify a resource.	100	10
Deleting a Resource	This API is used to delete a resource.	100	10
Querying Resource Details	This API is used to query resource details.	300	30

Job Development

Table 2-10 Job development

API	Description	Maximum API Requests per Second	Maximum User Requests per Second
Creating a Job	This API is used to create a job.	300	30
Modifying a Job	This API is used to modify a job.	300	30
Querying a Job List	This API is used to query a job list.	300	30
Querying Job Details	This API is used to query job details.	100	10
Querying a Job File	This API is used to query a job file.	100	10
Exporting a Job	This API is used to export a job.	100	10
Exporting Jobs	This API is used to export jobs.	100	10

API	Description	Maximum API Requests per Second	Maximum User Requests per Second
Importing Jobs	This API is used to import jobs.	100	10
Executing a Job Immediately	This API is used to execute a job immediately.	300	30
Starting a Job	This API is used to start a job.	300	30
Stopping a Job	This API is used to stop a job.	300	30
Deleting a Job	This API is used to delete a job.	300	30
Stopping a Job Instance	This API is used to stop a job instance.	300	30
Rerunning a Job Instance	This API is used to rerun a job instance.	300	30
Querying Running Status of a Real-Time Job	This API is used to query the running status of a real-time job.	300	30
Querying a Job Instance List	This API is used to query a job instance list.	300	30
Querying Job Instance Details	This API is used to query job instance details.	300	30
Querying System Task Details	This API is used to query details about asynchronous tasks.	100	10

2.3 DataArts Factory API (V2) Overview

Table 2-11 DataArts Factory API (V2) types

Type	Description
Job Development	Job development APIs

Job Development

Table 2-12 Job development

API	Description	Maximum API Requests per Second	Maximum User Requests per Second
Creating a PatchData Instance	This API is used to create a PatchData instance.	100	10
Querying PatchData Instances	This API is used to query PatchData instances. Pagination query is supported.	100	10
Stopping a PatchData Instance	This API is used to stop a specified PatchData instance.	100	10
Changing a Job Name	This API is used to change the name of a job.	100	10
Querying Release Packages	This API is used to query release packages.	100	10
Querying Details About a Release Package	This API is used to query details about a release package.	100	10
Configuring Job Tags	This API is used to configure job tags.	100	10
Querying Alarm Notifications	This API is used to query the alarm notifications in a specified period.	100	10
Releasing Task Packages	This API is used to release task packages.	100	10
Canceling Task Packages	This API is used to cancel task packages.	100	10
Querying the Instance Execution Status	This API is used to query the instance statuses of the current day, previous day, the day before the previous day, and last seven days.	1	1

API	Description	Maximum API Requests per Second	Maximum User Requests per Second
Querying Completed Tasks	This API is used to query the tasks completed on the current day, on the previous day, and over the last seven days.	1	1
Querying Instances of a Specified Job	This API is used to query the instances of a job based on the job name.	100	10

2.4 DataArts Architecture API Overview

Table 2-13 DataArts Architecture API types

Type	Description
Dashboard	Dashboard APIs
Information Architecture	Information architecture APIs
Data Standard	Data standard APIs
Data Source	Data source APIs
Lookup Table Management	Lookup table management APIs
Catalog	Catalog APIs
Data Standard Template	Data standard template APIs
Approval Management	Approval management APIs
Subject Management	Subject management APIs
Subject Level	Subject level APIs
Catalog Management	APIs for managing the catalogs of lookup tables and data standards
Atomic Metric	Atomic metric APIs
Derivative Metric	Derivative metric APIs

Type	Description
Compound Metric	Compound metric APIs
Dimension	Dimension APIs
Filter	Filter APIs, including those for time filters and general filters
Dimension Table	Dimension table APIs
Fact Table	Fact table APIs
Summary Table	Summary table APIs
Business Metric	Business metric APIs
Version Information	Version information APIs
ER Modeling	Table model APIs
Import/Export	Import and export APIs
Custom Item	Custom item APIs
Tag	Tag APIs
Quality Rule	Quality rule APIs

Dashboard

Table 2-14 Dashboard

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Obtaining Overview Statistics	This API is used to obtain overview statistics.	21,600	240
Obtaining Model Statistics	This API is used to obtain statistics in a model.	21,600	240
Obtaining ER Modeling Statistics	This API is used to obtain outer-layer statistics on the ER modeling page.	21,600	240

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Obtaining Standard Coverage Statistics	This API is used to obtain the coverage of a data standard in all model fields, that is, the percentage of fields that use the standard to the total fields.	21,600	240

Information Architecture

Table 2-15 Information architecture

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Tables	This API is used to query multiple types of tables, including logical entities, physical tables, dimension tables, fact tables, and summary tables.	21,600	240

Data Standard

Table 2-16 Data standard

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Data Standards	This API is used to query data standards and sort them by modification time in descending order.	21,600	240
Creating a Data Standard	This API is used to create a data standard.	10,800	120
Deleting a Data Standard	This API is used to delete a data standard.	10,800	120

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Modifying a Data Standard	This API is used to modify a data standard.	10,800	120
Querying Data Standard Details	This API is used to query the details of a data standard with a specified ID.	21,600	240
Associating Attributes with a Data Standard	This API is used to associate attributes with a data standard.	10,800	120

Data Source

Table 2-17 Data source

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Obtaining Data Connections	This API is used to obtain data connections of a specified type.	21,600	240

Lookup Table Management

Table 2-18 Lookup table management

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying the Lookup List	This API is used to query the lookup table list.	21,600	240
Creating a Lookup Table	This API is used to create a lookup table.	10,800	120
Deleting Lookup Tables	This API is used to delete lookup tables.	10,800	120
Modifying a Lookup Table	This API is used to modify a lookup table.	10,800	120

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Lookup Table Details	This API is used to query details about a lookup table by ID.	21,600	240
Querying Field Values in a Lookup Table	This API is used to query field values in a lookup table.	21,600	240
Editing Field Values in a Lookup Table	This API is used to edit field values in a lookup table.	10,800	120

Catalog

Table 2-19 Catalog

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Obtaining the Tree of All Catalogs	This API is used to obtain the tree of all catalogs.	21,600	240
Querying the Catalog List	This API is used to query the catalog list.	21,600	240
Creating a Catalog	This API is used to create a catalog.	10,800	120
Modifying a Catalog	This API is used to modify a catalog.	10,800	120
Deleting a Catalog	This API is used to delete a catalog.	10,800	120
Querying Catalog Details	This API is used to query the details of a catalog.	21,600	240

Data Standard Template

Table 2-20 Data standard template

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Data Standard Templates	This API is used to query the data standard templates in the current workspace.	21,600	240
Creating a Data Standard Template	This API is used to create a data standard template in the current workspace.	10,800	120
Modifying a Data Standard Template	This API is used to modify a data standard template.	10,800	120
Deleting a Data Standard Template	This API is used to delete a data standard template.	10,800	120
Initializing a Data Standard Template	This API is used to initialize a data standard template.	10,800	120

Approval Management

Table 2-21 Approval management

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Obtaining an Application	This API is used to obtain an application.	21,600	240
Withdrawing an Application	This API is used to withdraw an application.	10,800	120
Processing Applications	This API is used to reject or approve one or more applications.	10,800	120
Batch Publishing Resources	This API is used to publish resources in batches.	10,800	120

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Batch Unpublishing Resources	This API is used to unpublish resources in batches.	10,800	120
Creating a Reviewer	This API is used to create a reviewer.	10,800	120
Querying the Reviewer List	This API is used to query the reviewer list.	21,600	240
Deleting a Reviewer	This API is used to delete a reviewer.	10,800	120
Deleting the Extension of an Entity	When a released entity is edited, an extension is generated. This API is used to delete the extension information of the entity.	10,800	120
Obtaining the Difference Between the Extension Information and a Released Entity	When a released entity is edited, an extension is generated. This interface is used to obtain the difference between the extension information and the released entity.	21,600	240

Subject Management

Table 2-22 Subject management

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying the Subject List	This API is used to query subjects by name (fuzzy query is supported), creator, owner, status, or modification time.	21,600	240
Deleting a Subject	This API is used to delete a subject.	10,800	120

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Creating a Subject	This API is used to create a subject.	10,800	120
Modifying a Subject	This API is used to modify a subject.	10,800	120
Obtaining Subject Tree Information	This API is used to obtain the data asset subject tree information, including l1, l2, and l3.	21,600	240
Querying the Subject List (New)	This API is used to query the subject list.	21,600	240
Deleting a Subject (New)	This API is used to delete a subject.	10,800	120
Creating a Subject (New)	This API is used to create a subject.	10,800	120
Modifying a Subject (New)	This API is used to modify a subject.	10,800	120

Subject Level

Table 2-23 Subject level

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Obtaining a Subject Level	This API is used to obtain a subject level.	21,600	240
Modifying or Deleting a Subject Level	This API is used to modify or delete a subject level.	10,800	120

Directory Management

Table 2-24 Directory management

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Obtaining All Directories	This API is used to obtain all directories of data standards and lookup tables.	21,600	240
Creating a Directory	This API is used to create a directory of data standards or lookup tables.	10,800	120
Modifying a Directory	This API is used to modify a directory of data standards or lookup tables.	10,800	120
Deleting a Directory	This API is used to delete a directory of data standards or lookup tables.	10,800	120

Atomic Metric

Table 2-25 Atomic metric

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Atomic Metrics	This API is used to query atomic metrics by name, creator, reviewer, status, or modification time. Fuzzy query is supported.	21,600	240
Creating an Atomic Metric	This API is used to create an atomic metric.	10,800	120
Updating an Atomic Metric	This API is used to update an atomic metric.	10,800	120
Deleting Atomic Metrics	This API is used to delete atomic metrics.	10,800	120

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Atomic Metric Details	This API is used to obtain the details of an atomic metric with a specified ID.	21,600	240

Derivative Metric

Table 2-26 Derivative metric

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Derivative Metrics	This API is used to query derivative metrics by name, creator, reviewer, status, modification time, or l3Id.	21,600	240
Creating a Derivative Metric	This API is used to create a derivative metric based on parameters.	10,800	120
Updating a Derivative Metric	This API is used to update a derivative metric.	10,800	120
Deleting a Derivative Metric	This API is used to delete a derivative metric with a specified ID.	10,800	120
Querying Derivative Metric Details	This API is used to obtain the details of a derivative metric with a specified ID.	21,600	240

Compound Metric

Table 2-27 Compound metric

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Compound Metrics	This API is used to query compound metrics by name, creator, reviewer, status, modification time, or l3Id.	21,600	240
Creating a Compound Metric	This API is used to create a compound metric based on parameters.	10,800	120
Updating a Compound Metric	This API is used to update a compound metric based on parameters.	10,800	120
Deleting a Compound Metric	This API is used to delete a compound metric with a specified ID set.	10,800	120
Querying Compound Metric Details	This API is used to obtain the details of a compound metric with a specified ID.	21,600	240

Dimension

Table 2-28 Dimension

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Dimensions	This API is used to query dimensions by name, description, creator, reviewer, status, l3Id, derivative metric idList, or modification time.	21,600	240
Creating a Dimension	This API is used to create a dimension based on parameters.	10,800	120

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Updating a Dimension	This API is used to update a dimension based on parameters.	10,800	120
Deleting a Dimension	This API is used to delete a dimension with a specified ID.	10,800	120
Querying Dimension Details	This API is used to query the details of a dimension with a specified ID.	21,600	240
Querying Dimension Granularities	This API is used to query the granularities of all dimensions based on tableId . If tableId is not transferred, the granularities of all dimension groups are queried.	21,600	240
Querying a Dimension Table Reversing Task	This API is used to query a dimension table reversing task.	21,600	240

Filter

Table 2-29 Filter

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying a Service Filter	This API is used to query filter information by name, description, creator, reviewer, filter group ID, modification time, and status.	21,600	240
Querying Filter Details	This API is used to query the details of a filter with a specified ID.	21,600	240

Dimension Table

Table 2-30 Dimension table

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Dimension Tables	This API is used to query dimension tables by name, creator, reviewer, status, or modification time.	21,600	240
Deleting a Dimension Table	This API is used to delete a dimension table with a specified ID.	10,800	120
Querying Dimension Table Details	This API is used to query the details about a dimension table by ID.	21,600	240

Fact Table

Table 2-31 Fact table

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Fact Tables	This API is used to query fact tables by name, creator, reviewer, status, or modification time.	21,600	240
Deleting Fact Tables	This API is used to delete fact tables with specified IDs.	10800	120
Querying Fact Table Details	This API is used to query the details of a fact table with a specified ID.	21,600	240
Querying a Fact Table Reversing Task	This API is used to query a fact table reversing task.	21,600	240

Summary Table

Table 2-32 Summary table

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Summary Tables	This API is used to query summary tables by name, creator, reviewer, status, or modification time. Fuzzy query is supported.	21,600	240
Creating a Summary Table	This API is used to create a summary table.	10,800	120
Updating a Summary Table	This API is used to update a summary table.	10,800	120
Deleting Summary Tables	This API is used to delete summary tables in draft, unpublished, or rejected state.	10,800	120
Querying Summary Table Details	This API is used to query the details of a summary table with a specified ID.	21,600	240

Business Metric

Table 2-33 Business metric

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Business Metrics	This API is used to query business metrics by name, creator, or modification time.	21,600	240
Creating a Business Metric	This API is used to create a business metric.	10,800	120
Updating a Business Metric	This API is used to update a business metric.	10,800	120
Deleting a Business Metric	This API is used to delete a business metric.	10,800	120

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Metric Details	This API is used to query the details of a metric with a specified ID.	21,600	240
Querying Metric Dimension Information	This API is used to query the dimension information of a metric.	21,600	240
Querying the Metric Owner	This API is used to query the owner of a metric.	21,600	240
Obtaining Metric Association Information	This API is used to obtain the current metric graph.	21,600	240

Version Information

Table 2-34 Version information

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Version Information	This API is used to query version information by name, creator, or modification time.	21,600	240
Comparing Versions	This API is used to compare two versions with different IDs.	60	24

ER Modeling

Table 2-35 ER modeling

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Table Models	This API is used to query table models, including logical entities, physical tables, and their attributes, by name, creator, reviewer, status, or modification time.	21,600	240
Creating a Table Model	This API is used to create a table model (logical entity or physical table).	10,800	120
Updating a Table Model	This API is used to update a table model (logical entity or physical model) and its attributes.	10,800	120
Deleting a Table Model	This API is used to delete a table model (logical entity or physical model) and its attributes.	10,800	120
Querying Relationships	This API is used to query relationships by name, creator, start time, or end time. Fuzzy query is supported.	21,600	240
Querying Relationship Details	This API is used to obtain the details of a relationship with a specified ID.	21,600	240
Querying All Relationships in a Model	This API is used to query all relationships in a model.	21,600	240
Querying Table Model Details	This API is used to obtain the details of a table model with a specified ID.	21,600	240
Obtaining Models	This API is used to obtain all models in the current workspace.	21,600	240

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Creating a Model Workspace	This API is used to create a model workspace.	10,800	120
Updating a Model Workspace	This API is used to update a model workspace.	10,800	120
Deleting a Model Workspace	This API is used to delete a model workspace.	10,800	120
Querying Model Details	This API is used to query the workspace details of a physical or logical model.	21,600	240
Querying Destination Tables and Fields (to Be Taken Offline)	This API is used to query destination tables and fields.	21,600	240
Exporting DDL Statements of a Table in a Model	This API is used to export the DDL statements of a specified table based on the model ID.	10	4
Converting a Logical Model to a Physical Model	This API is used to convert a logical model to a physical model and returns information about the target model.	10,800	120
Obtaining the Operation Result	This API is used to obtain the result of a batch operation, for example, converting a logical model to a physical model and reversing a database.	21,600	240

Import and Export

Table 2-36 Import and export

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Importing Subjects	This API is used to import subjects.	10	4
Importing ER Models, Dimension Models, Lookup Tables, Business metrics, or Catalogs	This API is used to import ER models, dimension models, lookup tables, business metrics, or catalogs	10	4
Querying the Import Result	This API is used to query the processing result of the imported Excel file. The value of uuid can be obtained via the /design/models/action or /design/catalogs/action API.	21,600	240
Exporting Service Data	This API is used to export service data, including lookup tables, data standards, atomic metrics, derivative metrics, compound metrics, summary tables, business metrics, subjects, processes, logical models, physical models, dimensions, and fact tables.	10	4
Obtaining the Exported Excel	This API is used to obtain the exported Excel based on the UUID returned by the /export-model API.	21,600	240

Custom Item

Table 2-37 Customized item

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Querying Custom Items	This API is used to query custom items of tables, attributes, subjects, or business metrics.	21,600	240
Modifying a Custom Item	This API is used to modify a custom table, attribute, subject, or business metric item.	10,800	120

Tag

Table 2-38 Tag

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Adding Tags	This API is used to add tags to an asset (table or attribute) with a specified ID.	10,800	120
Deleting Tags	This API is used to delete tags of an asset (table or attribute) with a specified ID.	10,800	120

Quality Rule

Table 2-39 Quality rule

API	Description	Maximum API Requests per Minute	Maximum User Requests per Minute
Updating Abnormal Data Output Configuration of a Table	This API is used to update the abnormal data output configuration of a table, including whether to generate abnormal data, database or schema for storing abnormal data, and prefix or suffix of an abnormal table.	10,800	120
Clearing Quality Rules	This API is used to clear quality rules of a table.	10,800	120

2.5 DataArts Quality API Overview

Table 2-40 DataArts Quality API types

Type	Description
Catalog	Catalog APIs
Rule Template	Rule template APIs
Quality Job	Quality job APIs
Comparison Job	Comparison job APIs
O&M	O&M APIs
Quality Report	Quality report APIs
Import/Export	Import and export APIs

Directory

Table 2-41 Directory

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining Job Directories	This API is used to obtain job directories.	300	40

Rule Template

Table 2-42 Rule template

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining the Rule Template List	This API is used to obtain the rule template list.	300	40
Creating a Rule Template	This API is used to create a rule template.	300	40
Obtaining Rule Template Details	This API is used to obtain the details of a rule template.	300	40
Updating a Rule Template	This API is used to update a rule template.	300	40
Deleting Rule Templates	This API is used to delete rule templates.	300	40

Quality Job

Table 2-43 Quality job

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining the Quality Job List (V1)	This API is used to obtain quality jobs.	300	40

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining the Quality Job List	This API is used to obtain the list of quality jobs.	300	40
Obtaining Quality Job Details	This API is used to obtain the details of a quality job.	300	40

Comparison Job

Table 2-44 Comparison job

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining the Comparison Job List	This API is used to obtain the comparison job list.	300	40
Obtaining Comparison Job Details	This API is used to obtain the details of a comparison job.	300	40

O&M

Table 2-45 O&M

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining the Task Execution Result List	This API is used to obtain the task execution result list.	300	40
Obtaining the Instance Result	This API is used to obtain the instance result.	300	40

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Rectifying Issues of an Instance	This API is used to rectify issues of an instance. On the DataArts Quality console, you can click More and select Rectify to rectify issues.	300	40

Quality Report

Table 2-46 Quality report

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining a Quality Report Scoring System	This API is used to obtain a quality report scoring system.	300	40
Obtaining the Quality Report Overview	This API is used to obtain the quality report overview.	300	40
Obtaining the Quality Report Trend	This API is used to obtain the quality report trend.	300	40
Obtaining the Quality Report Rule Score	This API is used to obtain the score of a quality report rule.	300	40
Obtaining the Score of a Sub-rule Field in the Quality Report	This API is used to obtain the score of a sub-rule field in the quality report.	300	40
Obtaining Technical Report Data	This API is used to obtain technical report data.	300	40
Obtaining Business Report Data	This API is used to obtain business report data.	300	40

Import and Export

Table 2-47 Import and export

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Exporting Resources	This API is used to export resources from DataArts Quality, such as quality jobs and comparison jobs.	1800	20
Obtaining the Status of an Import/Export Task	This API is used to obtain the status of an export or import task.	300	40
Downloading a Resource File	This API is used to download a resource file.	300	40
Uploading a Resource File	This API is used to import a file to DataArts Quality.	1800	20
Importing Resources	This API is used to import resources to DataArts Quality.	1800	20

2.6 DataArts DataService API Overview

Table 2-48 DataArts DataService API types

Type	Description
API Management	API management APIs
Application Management	Application management APIs
Message Management	Message management APIs
Authorization Management	Authorization management APIs
Service Catalog Management	Service catalog management APIs
Gateway Management	Gateway management APIs
App Management	App management APIs

Type	Description
Overview	Overview APIs
Cluster Management	Cluster management APIs.

API Management

Table 2-49 API management

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Creating an API.	This API is used to create an API.	2400	120
Querying the API List	This API is used to query the API list.	2400	120
Updating an API	This API is used to update an API.	2400	120
Querying API Information	This API is used to query API information.	2400	120
Deleting APIs	This API is used to delete APIs.	2400	120
Publishing an API	This API is used to publish an API. Only published APIs can be called. You can choose to publish an API to a specified gateway.	2400	120
Performing an API Operation	This API is used to unpublish, stop, or recover an API. After the API is unpublished, its authorization will be canceled and the API cannot be called.	2400	120
Authorizing APIs (Exclusive Edition)	An app cannot access any APIs after being created. To enable an app to access an API, authorize the API to the app. After the authorization is successful, the app can access the API within the validity period.	2400	120
Debugging an API	This API is used to debug an API.	2400	120

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Performing an API Authorization Operation	The API reviewer can initiate a request to authorize an API. After the authorization is successful, the app can access the API within the validity period. API authorization includes authorization and renewal.	2400	120
Querying API Publishing Messages in DataArts DataService Exclusive	This API is used to query the API publishing messages in different clusters.	2400	120
Querying Instances for API Operations in DataArts DataService Exclusive	This API is used to query instances for API operations.	2400	120
Querying API Debugging Messages in DataArts DataService Exclusive	This API is used to query the API debugging information in different clusters.	2400	120
Importing an Excel File Containing APIs	This API is used to import an Excel file that contains APIs.	2400	120
Exporting an Excel File Containing APIs	This API is used to export an Excel file that contains APIs.	2400	120
Exporting a .zip File Containing All APIs	This API is used to export a .zip file that contains all APIs.	2400	120
Downloading an Excel Template	This API is used to download an Excel template.	2400	120

Application Management

Table 2-50 Application management

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Querying the Application List	This API is used to query the application list.	2400	120
Reviewing an Application	This API is used to review an application.	2400	120
Obtaining Application Details	This API is used to obtain the details of an application.	2400	120

Message Management

Table 2-51 Message management

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Querying the Message List	This API is used to query the list of notification messages in the review center. Different from applications, notification messages cannot be rejected and can be processed only within a specified time period.	2400	120
Processing Messages	This API is used to process received notification messages within a specified time period.	2400	120
Obtaining Message Details	This API is used to obtain the details of a message. This function is only used for displaying application details and not for processing. Therefore, background parameters such as the ID are not displayed.	2400	120

Authorization Management

Table 2-52 Authorization management

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Querying Apps Authorized to Call an API	This API is used to query the apps that have been authorized to call an API.	2400	120
Querying Authorized APIs of an App	This API is used to query authorized APIs of an app.	2400	120

Service Catalog Management

Table 2-53 Service catalog management

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining the List of APIs and Catalogs in a Catalog	This API is used to obtain the list of APIs and catalogs in the current catalog. The list is displayed in the data format of the catalog.	2400	120
Obtaining the List of APIs in the Current Catalog	This API is used to obtain the list of APIs in a catalog.	2400	120
Obtaining the List of Sub-Catalogs in a Catalog	This API is used to obtain the list of sub-catalogs in a catalog. (The returned sub-catalogs are displayed on the same page. It is recommended that this API be used only in scenarios where pagination is not supported, for example, generating a catalog tree.)	2400	120
Updating a Service Catalog	This API is used to update a service catalog.	2400	120

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Querying a Service Catalog	This API is used to query a service catalog.	2400	120
Creating a Service Catalog	This API is used to create a service catalog. The ID of the root directory is 0.	2400	120
Deleting Catalogs	This API is used to delete service catalogs.	2400	120
Moving a Catalog to Another Catalog	This API is used to move a catalog to another catalog.	2400	120
Moving APIs to Another Catalog	This API is used to move APIs to another catalog.	2400	120
Obtaining the ID Through the Path	This API is used to obtain the ID through the path.	2400	120
Obtaining the Path Through the ID	This API is used to obtain the path through the ID.	2400	120
Obtaining the Path to a Catalog Through Its ID	This API is used to obtain the path to a catalog through its ID.	2400	120
Querying the Service Catalog API List	This API is used to query the service catalog API list.	2400	120

Gateway Management

Table 2-54 Gateway management

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining a Gateway Instance (Exclusive Edition)	This API is used to obtain a gateway instance (exclusive edition).	2400	120

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Obtaining a Gateway Group	This API is used to obtain a gateway group.	2400	120

App Management

Table 2-55 App management

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Creating an App	This API is used to create an app.	2400	120
Querying the App List	This API is used to query the app list.	2400	120
Updating an App	This API is used to update an app.	2400	120
Deleting an App	This API is used to delete an app.	2400	120
Querying App Details	This API is used to query the details of an app.	2400	120

Overview

Table 2-56 Overview

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Querying the API Overview	This API is used to query the API overview.	2400	120
Querying the App Overview	This API is used to query the app overview.	2400	120

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Querying Top N APIs Called	This API is used to query the top N APIs called.	2400	120
Querying Top N Apps Used	This API is used to query the top N apps used.	2400	120
Querying API Statistics Details	This API is used to query API statistics details.	2400	120
Querying App Statistics Details	This API is used to query app statistics details.	2400	120
Querying API Dashboard Data Details	This API is used to query API dashboard data details.	2400	120
Querying Data Details of a Specified API Dashboard	This API is used to query details of a specified API dashboard.	2400	120
Querying App Dashboard Data Details	This API is used to query app dashboard data details.	2400	120
Querying Top N APIs Called by a Specified App	This API is used to query top N APIs called by a specified app.	2400	120

Cluster Management

Table 2-57 Cluster management

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Querying the Cluster Overview Information List	This API is used to query the cluster overview information list.	2400	120
Querying the List of Cluster Details	This API is used to query the list of cluster details.	2400	120

API	Description	Maximum API Requests in 10 Seconds	Maximum User Requests in 10 Seconds
Querying Cluster Details	This API is used to query the details of a cluster.	2400	120
Querying the Access Log List of a DataArts DataService Cluster	This API is used to query the access log list of a DataArts DataService cluster.	2400	120
Enabling Log Dump to OBS for DataArts DataService Clusters	This API is used to enable log dump to OBS for DataArts DataService clusters.	2400	120
Enabling Log Dump to LTS for DataArts DataService Clusters	This API is used to enable log dump to LTS for DataArts DataService clusters.	2400	120

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM API for [creating an IAM user](#) as an example to demonstrate how to call an API. This API is used by the administrator to create an IAM user.

Request URI

A request URI is in the following format:

{URI-scheme}://{Endpoint}/{resource-path}?{query-string}

Although a request URI is included in the request header, most programming languages or frameworks require the request URI to be transmitted separately.

Table 3-1 URI parameters

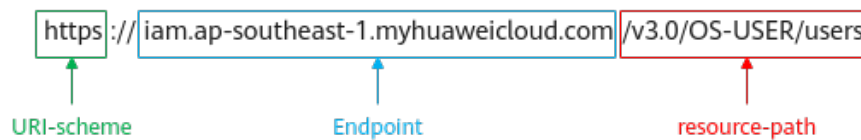
Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service endpoint. The endpoint varies between services in different regions. An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. You can obtain endpoints of the service from Endpoints . For example, the endpoint of IAM in region CN-Hong Kong is iam.ap-southeast-1.myhuaweicloud.com .
resource-path	Access path of an API for performing a specified operation. Obtain the value from the URI of an API. For example, resource-path of the API used to create an IAM user is /v3.0/OS-USER/users .

Parameter	Description
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of " <i>Parameter name=Parameter value</i> ", for example, ?limit=10 , it indicates that a maximum of 10 data records are allowed.

For example, if you want to create an IAM user, combine the endpoint of any region (for example, iam.ap-southeast-1.myhuaweicloud.com for **CN-Hong Kong**) with the **resource-path (/v3.0/OS-USER/users)** in the URI of the API used to **create an IAM user**. The following is an example:

`https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users`

Figure 3-1 Example URI



NOTE

To simplify the URI display in this document, each API is provided only with a **resource-path** and a request method. The **URI-scheme** value of all APIs is **HTTPS**, and the endpoints of all APIs in the same region are identical.

Request Method

The HTTP protocol defines the following request methods that can be used to send a request to the server:

Table 3-2 HTTP methods

Method	Description
GET	Requests the server to return specified resources.
PUT	Requests the server to update specified resources.
POST	Requests the server to add resources or perform special operations.
DELETE	Requests the server to delete specified resources, for example, an object.
HEAD	Same as GET except that the server must return only the response header.

Method	Description
PATCH	Requests the server to update partial content of a specified resource. If the resource does not exist, a new resource will be created.

For example, in the URI of the IAM API for [creating an IAM user](#), the request method is **POST**. An example request is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
```

Request Header

You can also add additional header fields to a request, such as the fields required by a specified URI or HTTP method. For example, to request the authentication information, add **Content-Type**, which specifies the request body type.

Table 3-3 lists common request header fields.

Table 3-3 Common request header fields

Field	Description	Mandatory	Example
Content-Type	Request body type or format. Its default value is application/json .	Yes	application/json
Content-Length	Specifies the length of the request body. The unit is byte.	No	3495
X-Language	Request language	No	en_us
X-Auth-Token	Specifies a user token. The user token is the value returned by the API used to obtain a user token . This API is the only API that does not require authentication. The token is the value of X-Subject-Token in the response header.	This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZlhvc-NAQcCo...ggg1BBI INPXsidG9rZ

Field	Description	Mandatory	Example
Authorization	Authentication information. When AK/SK authentication is enabled, this field is automatically specified when SDK is used to sign the request.	This field is mandatory for AK/SK-based authentication.	None
X-Sdk-Date	Time when the request is sent. The format is YYYYMMDD'T'HHMMSS'Z'. The value is the current GMT time of the system. When AK/SK authentication is enabled, this field is automatically specified when SDK is used to sign the request.	This field is mandatory for AK/SK-based authentication.	20150907T101459Z
Host	Specifies the server domain name and port number of the resources being requested. The value can be obtained from the URL of the service API. The value is in the format of <i>hostname[:port]</i> . If the port number is not specified, the default port is used. The default port number for HTTPS is 443.	This field is mandatory for AK/SK-based authentication.	code.test.com or code.test.com:443
X-Project-Id	Subproject ID. Obtain the project ID by following the instructions in Project ID and Account ID .	This field is mandatory for calling service APIs that use AK/SK authentication in subprojects.	e9993fc787d94b6c886cbaa340f9c0f4
X-Domain-ID	Domain ID. Obtain the domain ID by following the instructions in Project ID and Account ID .	This field is mandatory for calling global APIs that use AK/SK authentication.	0a2f5e28af00f3850f31c00f31e884e0

Field	Description	Mandatory	Example
workspace	Workspace ID. For details about how to obtain it, see Instance ID and Workspace ID .	<ul style="list-style-type: none"> You do not need to set this field when calling a CDM or DIS API. This field is mandatory when there are multiple DataArts Studio instances during a call to a DataArts Factory API. This field is optional when there is only one DataArts instance. This field is optional when there is only one DataArts Studio instance. If this field is not specified, data in the default workspace is queried by default. To query data in other workspaces, include this field in the request header. This header is mandatory for calling the APIs of other modules. Otherwise, API calls will fail. 	d1cd7861478748a6925bc02f47c69279
X-Dlm-Type	DataArts DataService edition, which is Exclusive	This parameter is mandatory for calling DataArts DataService APIs.	EXCLUSIVE: exclusive edition

 NOTE

In addition to supporting token-based authentication, APIs also support authentication using access key ID/secret access key (AK/SK). During AK/SK-based authentication, an SDK is used to sign the request, and the **Authorization** (signature authentication) and **X-Sdk-Date** (time when the request is sent) header fields are automatically added to the request.

For more information, see "AK/SK-based Authentication" in [Authentication](#).

The following is an example request of the API that is used to [create an IAM user](#) and that uses AK/SK authentication:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
Content-Type: application/json
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=*****, SignedHeaders=content-type;host;x-sdk-date,
Signature=*****
```

Request Body

The body of a request is often sent in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The request body transfers content except the request header. If the request body contains Chinese characters, these characters must be coded in UTF-8.

The request body varies between APIs. Some APIs do not require the request body, such as the APIs requested using the **GET** and **DELETE** methods.

For the API used to [obtain an IAM user](#), you can obtain the request parameters and their descriptions from the API request. The following provides an example request with a body included. Replace the italic fields in bold with the actual values.

- **accountid** indicates the ID of the account to which the IAM user belongs.
- **username** indicates the IAM username to be created.
- **email** indicates the email address of the IAM user.
- ********* indicates the login password of the IAM user.

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
Content-Type: application/json
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=*****, SignedHeaders=content-type;host;x-sdk-date,
Signature=*****

{
  "user": {
    "domain_id": "accountid",
    "name": "username",
    "password": "*****",
    "email": "email",
    "description": "IAM User Description"
  }
}
```

If all data required for the API request is available, you can send the request to call the API through [curl](#), [Postman](#), or coding.

3.2 Authentication

Requests for calling an API can be authenticated using either of the following methods:

- Token-based authentication: Requests are authenticated using a token.
- AK/SK-based authentication: Requests are authenticated by encrypting the request body using an AK/SK pair.

NOTE

An IAM user can pass the authentication and access DataArts Studio through an API or SDK only if **Programmatic access** is selected for **Access Type** during the creation of the IAM user.

Token-based Authentication

NOTE

- The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the IAM API used to obtain a user token.
- Ensure that the token is valid when you use it. Using a token that will soon expire may cause API calling failures.

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to a request to get permissions for calling the API.

When calling the API to **obtain a user token**, you must set **auth.scope** in the request body to **project**.

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "username",
          "password": "*****",
          "domain": {
            "name": "domainname"
          }
        }
      }
    }
  },
  "scope": {
    "project": {
      "id": "xxxxxxxxxxxxxxxxxxxxxx"
    }
  }
}
```

After a token is obtained, the X-Auth-Token header field must be added to requests to specify the token when calling other APIs, for example, the API used to query a connection list. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

```
GET https://iam.ap-southeast-1.myhuaweicloud.com/v1/{project_id}/connections
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

AK/SK-based Authentication

NOTE

- AK/SK-based authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, use token-based authentication.
- You can use the AK/SK in a permanent or temporary access key. The **X-Security-Token** field must be configured if the AK/SK in a temporary access key is used, and the field value is **security_token** of the temporary access key.

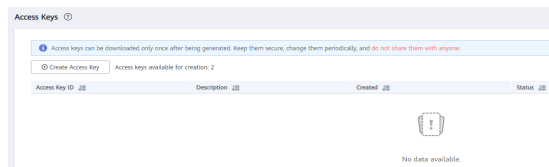
In AK/SK-based authentication, AK/SK is used to sign requests and the signature is then added to the requests for authentication.

- **AK**: access key ID, which is a unique identifier used in conjunction with a secret access key to sign requests cryptographically.
- **SK**: secret access key used in conjunction with an AK to sign requests cryptographically. It identifies a request sender and prevents the request from being modified.

To obtain an access key, perform the following steps:

1. Log in to the management console, move the cursor to the username in the upper right corner, and select **My Credentials** from the drop-down list.
2. On the **My Credentials** page, choose **Access Keys**, and click **Create Access Key**. See [Figure 3-2](#).

Figure 3-2 Clicking Create Access Key



3. Click **OK** and save the access key file as prompted. The access key file will be saved to your browser's configured download location. Open the **credentials.csv** file to view **Access Key Id** and **Secret Access Key**.

NOTE

- Only two access keys can be added for each user.
- To ensure access key security, the access key is automatically downloaded only when it is generated for the first time and cannot be obtained from the management console later. Keep them properly.

In AK/SK-based authentication, you can use an AK/SK to sign requests based on the signature algorithm or use the signing SDK to sign requests. For details about how to sign requests and use the signature SDK, see [API Request Signing Guide](#).

NOTICE

The signing SDKs are only used for signing requests and different from the SDKs provided by services.

3.3 Response

After sending a request, you will receive a response, including a status code, response header, and response body.

Status Code

After sending a request, you will receive a response, including a status code, response header, and response body.

A status code is a group of digits, ranging from 1xx to 5xx. It indicates the status of a request. For more information, see [Status Codes](#).

For example, if status code **201** is returned for calling the API used to [obtain a user token](#), the request is successful.

Response Header

Similar to a request, a response also has a header, for example, **Content-Type**.

If status code **201** is returned for the API used to [create an IAM user](#), the request is successful.

Response Body

The body of a response is often returned in structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The response body transfers content except the response header.

Part of the response body for the API used to [create an IAM user](#) is as follows:

```
{
  "user": {
    "id": "c131886aec...",
    "name": "IAMUser",
    "description": "IAM User Description",
    "areacode": "",
    "phone": "",
    "email": "****@***.com",
    "status": null,
    "enabled": true,
    "pwd_status": false,
    "access_mode": "default",
    "is_domain_owner": false,
    "xuser_id": "",
    "xuser_type": "",
    "password_expires_at": null,
    "create_time": "2024-05-21T09:03:41.000000",
    "domain_id": "d78cbac1.....",
    "xdomain_id": "30086000.....",
    "xdomain_type": "",
    "default_project_id": null
  }
}
```

If an error occurs during API calling, an error code and a message will be displayed. The following shows an error response body.

```
{
  "error_msg": "Request body is invalid.",
}
```

```
"error_code": "IAM.0011"  
}
```

In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

4 DataArts Migration APIs

4.1 Cluster Management

4.1.1 Querying Cluster Details

Function

This API is used to query cluster details.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/clusters/{cluster_id}

Table 4-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID

Request Parameters

Table 4-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-3 Response body parameters

Parameter	Type	Description
publicEndpoint	String	EIP bound to the cluster
instances	Array of ClusterDetail Instance objects	Cluster node information. For details, see the descriptions of instances parameters.
security_group_id	String	Security group ID
subnet_id	String	Subnet ID
vpc_id	String	VPC ID
customerConfig	CustomerConfig object	User configuration
datastore	Datastore object	CDM information
isAutoOff	Boolean	Automatic shutdown
publicEndpointDomainName	String	Domain name for the EIP bound to the cluster
bakExpectedStartTime	String	Start time
bakKeepDay	Integer	Retention period
maintainWindow	maintainWindow object	Maintenance window

Parameter	Type	Description
recentEvent	Integer	Number of events
flavorName	String	Flavor name
azName	String	AZ name
endpointDomainName	String	Peer domain name
publicEndpointStatus	publicEndpointStatus object	EIP status
isScheduleBootOff	Boolean	Whether to enable scheduled startup/shutdown. The scheduled startup/shutdown and auto shutdown functions cannot be enabled at the same time.
namespace	String	Namespace
eipId	String	EIP ID
failedReasons	FailedReasons object	Failure cause. If this parameter is left empty, the cluster is in normal state.
dbuser	String	Database user
links	Array of ClusterLinks objects	Cluster link information
clusterMode	String	Cluster mode: sharding
task	ClusterTask object	Task information
created	String	Cluster creation time in ISO 8601 format: YYYY-MM-DDThh:mm:ssZ
statusDetail	String	Cluster status: normal
config_status	String	Cluster configuration status. <ul style="list-style-type: none">● In-Sync: The configuration has been synchronized.● Applying: The cluster is being configured.● Sync-Failure: The configuration failed.
actionProgress	ActionProgress object	Cluster operation progress, which consists of a key and a value. The key indicates an ongoing task, and the value indicates the progress of the ongoing task. An example is "action_progress":{"SNAPSHOTTING":"16%"}.
name	String	Cluster name

Parameter	Type	Description
id	String	Cluster ID
isFrozen	String	Whether the cluster is frozen. The value can be 0 (not frozen) or 1 (frozen).
actions	Array of strings	Cluster configuration status. Options: - In-Sync : The cluster configuration has been synchronized. - Applying : The cluster is being configured. - Sync-Failure : The cluster configuration failed.
updated	String	Cluster update time in ISO 8601 format: YYYY-MM-DDThh:mm:ssZ
status	String	Cluster status. The options are as follows: <ul style="list-style-type: none"> ● 100: creating ● 200: normal ● 300: failed ● 303: creation failed ● 800: frozen ● 900: stopped ● 910: stopping ● 920: starting

Table 4-4 ClusterDetailInstance

Parameter	Type	Description
flavor	flavor object	VM flavor of a node. For details, see the descriptions of flavor parameters.
volume	volume object	Disk information of a node. For details, see the descriptions of volume parameters.
status	String	Node status <ul style="list-style-type: none"> ● 100: creating ● 200: normal ● 300: failed ● 303: failed to be created ● 400: deleted ● 800: frozen

Parameter	Type	Description
actions	Array of strings	Node operation status <ul style="list-style-type: none">● REBOOTING: restarting● RESTORING: restoring● REBOOT_FAILURE: failed to restart
type	String	Node type. Currently, only cdm is available.
id	String	Node VM ID
name	String	Name of the VM on the node
isFrozen	String	Whether the node is frozen. The value can be 0 (not frozen) or 1 (frozen).
components	String	Components
config_status	String	Node configuration status. The value is null when the cluster list is queried. <ul style="list-style-type: none">● In-Sync: The configuration has been synchronized.● Applying: The configuration is in progress.● Sync-Failure: The configuration fails.
role	String	Instance role
group	String	Group
links	Array of ClusterLinks objects	Links (null is returned for querying the cluster list)
paramsGroupID	String	Group ID
publicip	String	Public IP address
manageip	String	Management IP address
trafficip	String	Traffic IP address
shard_id	String	Slice ID
manage_fix_ip	String	Management fix IP address
private_ip	String	Private IP address
internal_ip	String	Internal IP address
resource	Array of Resource objects	Resource information (null is returned for querying the cluster list)

Table 4-5 flavor

Parameter	Type	Description
id	String	VM flavor ID
links	Array of ClusterLinks objects	Links

Table 4-6 volume

Parameter	Type	Description
type	String	Type of disks on the node. Only local disks are supported.
size	Long	Size of the disk on the node (GB)

Table 4-7 Resource

Parameter	Type	Description
resource_id	String	Resource ID
resource_type	String	Resource type: server

Table 4-8 CustomerConfig

Parameter	Type	Description
failureRemind	String	Failure notification
clusterName	String	Cluster type
serviceProvider	String	Service provider
localDisk	String	Whether the disk is a local disk
ssl	String	Whether to enable SSL
createFrom	String	Source
resourceId	String	Resource ID
flavorType	String	Flavor type
workspaceId	String	Workspace ID
trial	String	Trial

Table 4-9 Datastore

Parameter	Type	Description
type	String	Type. Generally, the value is cdm .
version	String	Cluster version

Table 4-10 maintainWindow

Parameter	Type	Description
day	String	Day of a week
startTime	String	Start time
endTime	String	End time

Table 4-11 publicEndpointStatus

Parameter	Type	Description
status	String	Status
errorMessage	String	Error message

Table 4-12 FailedReasons

Parameter	Type	Description
CREATE_FAILED	CREATE_FAILED object	Cause of the cluster creation failure

Table 4-13 CREATE_FAILED

Parameter	Type	Description
errorCode	String	Error code
errorMsg	String	Failure cause

Table 4-14 ClusterLinks

Parameter	Type	Description
rel	String	Relationship

Parameter	Type	Description
href	String	Link address

Table 4-15 ClusterTask

Parameter	Type	Description
description	String	Task description
id	String	Task ID
name	String	Task name

Table 4-16 ActionProgress

Parameter	Type	Description
CREATING	String	Cluster creation progress, for example, 29%
GROWING	String	Cluster expansion progress, for example, 29%
RESTORING	String	Cluster restoration progress, for example, 29%
SNAPSHOTTING	String	Cluster snapshotting progress, for example, 29%
REPAIRING	String	Cluster repairing progress, for example, 29%

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/bae65496-643e-47ca-84af-948672de7eeb
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "publicEndpoint": "49.xx.xx.10",
  "instances": [ {
    "flavor": {
      "id": "fb8fe666-6734-4b11-bc6c-43d11db3c745"
    },
    "volume": {
      "size": "100",
      "type": "LOCAL_DISK"
    },
    "name": "cdm-c018",
    "id": "635dce67-3df8-4756-b4c7-90e45e687367",
    "isFrozen": "0",
    "type": "cdm",
    "actions": "REBOOTING",
    "config_status": "In-Sync",
```

```
"status" : "200"
}],
"created" : "2018-09-05T08:38:25",
"statusDetail" : "Normal",
"actionProgress" : { },
"name" : "cdm-c018",
"id" : "bae65496-643e-47ca-84af-948672de7eeb",
"isFrozen" : "0",
"actions" : "REBOOTING",
"updated" : "2018-09-05T08:38:25",
"status" : "200"
}
```

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.2 Deleting a Cluster

Function

This API is used to delete a cluster.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v1.1/{project_id}/clusters/{cluster_id}

Table 4-17 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID

Request Parameters

Table 4-18 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-19 Request body parameters

Parameter	Mandatory	Type	Description
keep_last_manual_backup	Yes	Integer	Number of backup log files. Retain the default value 0 .

Response Parameters

Status code: 202

Table 4-20 Response body parameters

Parameter	Type	Description
jobId	String	Job ID

Example Requests

```
DELETE /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920
{
  "keep_last_manual_backup": 0
}
```

Example Responses

Status code: 202

Accepted.

```
{
  "jobId" : "ff8080815e55125a015e552eddba001a"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class DeleteClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteClusterRequest request = new DeleteClusterRequest();
        request.withClusterId("{cluster_id}");
        CdmDeleteClusterReq body = new CdmDeleteClusterReq();
        body.withKeepLastManualBackup(0);
        request.withBody(body);
        try {
            DeleteClusterResponse response = client.deleteCluster(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```



```
}  
}  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkcdm.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    # variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = CdmClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = DeleteClusterRequest()  
        request.cluster_id = "{cluster_id}"  
        request.body = CdmDeleteClusterReq(  
            keep_last_manual_backup=0  
        )  
        response = client.delete_cluster(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).
```

```

WithSk(sk).
WithProjectId(projectId).
Build()

client := cdm.NewCdmClient(
    cdm.CdmClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.DeleteClusterRequest{
    request.ClusterId = "{cluster_id}"
    request.Body = &model.CdmDeleteClusterReq{
        KeepLastManualBackup: int32(0),
    }
}
response, err := client.DeleteCluster(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}

```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
202	Accepted.
400	Request error.
401	Authorization failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.3 Querying All AZs

Function

This API is used to query all AZs of a CDM cluster.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/regions/{region_id}/availability_zones

Table 4-21 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
region_id	Yes	String	Region ID. You can obtain it from the response message of the "Querying the Region List" API of the IAM service.

Request Parameters

Table 4-22 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Response Parameters

Status code: 200

Table 4-23 Response body parameters

Parameter	Type	Description
regionId	String	Region ID.
defaultAZ	String	Specifies the default AZ.

Parameter	Type	Description
availableZones	Array of CdmClusterAvailabilityZone objects	Indicates the AZ.

Table 4-24 CdmClusterAvailabilityZone

Parameter	Type	Description
availableZoneId	String	ID of the AZ
availableZoneName	String	AZ name
availableZoneCode	String	Indicates the AZ code.
azStatus	String	AZ status.
type	String	Indicates the AZ type.
tags	Object	AZ tag

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/regions/xxx-xxx-xxx/availability_zones
```

Example Responses

Status code: 200

The request is successful.

```
{
  "regionId": "xxx-xxx-xxx",
  "defaultAZ": "xxx-xxx-xxx",
  "availableZones": [ {
    "availableZoneId": "xxx-xxx-xxx",
    "availableZoneName": "xxx-xxx-xxx",
    "availableZoneCode": "xxx-xxx-xxx",
    "azStatus": "Available",
    "type": null,
    "tags": null
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;
```

```
import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ShowAvailabilityZonesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();

        ShowAvailabilityZonesRequest request = new ShowAvailabilityZonesRequest();
        request.withRegionId("{region_id}");
        try {
            ShowAvailabilityZonesResponse response = client.showAvailabilityZones(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"
```

```
credentials = BasicCredentials(ak, sk, projectId)

client = CdmClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(CdmRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ShowAvailabilityZonesRequest()
    request.region_id = "{region_id}"
    response = client.show_availability_zones(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAvailabilityZonesRequest{}
    request.RegionId = "{region_id}"
    response, err := client.ShowAvailabilityZones(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The request is successful.
400	Request error.
401	Authentication failed.
403	No operation permission.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.4 Querying Supported Versions

Function

This API is used to query the versions supported by CDM clusters.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/datastores

Table 4-25 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 4-26 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Response Parameters

Status code: 200

Table 4-27 Response body parameters

Parameter	Type	Description
datastores	Array of CdmClusterDatastore objects	Specifies the database list.

Table 4-28 CdmClusterDatastore

Parameter	Type	Description
id	String	Service ID, which is used to differentiate services.
name	String	Service name
bigclusterEnable	Boolean	Specifies whether large-scale clusters are supported.
defaultVersion	String	Default version.
versions	Array of CdmClusterVersion objects	Indicates the version.

Table 4-29 CdmClusterVersion

Parameter	Type	Description
active	String	Version status.
id	String	Version ID.
image	String	Version image.
name	String	Version name.
packages	String	Version package.
datastore	String	Service ID, which is used to differentiate services.
links	Array of ClusterLinks objects	URL information.

Table 4-30 ClusterLinks

Parameter	Type	Description
rel	String	Relationship
href	String	Link address

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/datastores
```

Example Responses

Status code: 200

The request is successful.

```
[ {
  "id" : "736270b9-27c7-4f03-823b-447d8245e1c2",
  "name" : "cdm",
  "bigclusterEnable" : false,
  "defaultVersion" : "2.9.3.300",
  "links" : null,
  "versions" : [ {
    "active" : "1",
    "id" : "e8a8b8cc-63f8-4fb5-8d4a-24c502317b11",
    "image" : null,
    "links" : [ {
      "rel" : "self",
      "href" : "https://10.63.25.93:443/rds/v1.0/datastores/736270b9-27c7-4f03-823b-447d8245e1c2"
    } ],
    "rel" : "bookmark",
    "href" : "https://10.63.25.93:443/datastores/736270b9-27c7-4f03-823b-447d8245e1c2"
  } ],
  "name" : "2.9.3.300",
  "packages" : "cdm",
```

```
"datastore" : "736270b9-27c7-4f03-823b-447d8245e1c2"  
  } ]  
} ]
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;  
import com.huaweicloud.sdk.cdm.v1.*;  
import com.huaweicloud.sdk.cdm.v1.model.*;  
  
public class ShowDatastoresSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        CdmClient client = CdmClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))  
            .build();  
        ShowDatastoresRequest request = new ShowDatastoresRequest();  
        try {  
            ShowDatastoresResponse response = client.showDatastores(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials
```

```
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowDatastoresRequest()
        response = client.show_datastores(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowDatastoresRequest{}
    response, err := client.ShowDatastores(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    }
}
```

```
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The request is successful.
400	Request error.
401	Authentication failed.
403	No operation permission.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.5 Querying Version Specifications

Function

This API is used to query all compatible specifications by version ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/datastores/{datastore_id}/flavors

Table 4-31 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
datastore_id	Yes	String	Version ID. For details about how to obtain the version ID, see Versions Supported by CDM .

Request Parameters

Table 4-32 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Response Parameters

Status code: 200

Table 4-33 Response body parameters

Parameter	Type	Description
id	String	Service ID, which is used to differentiate services.
dbname	String	Database name. Generally, the value is cdm.
versions	Array of CdmClusterDatastoreVersion objects	API version list

Table 4-34 CdmClusterDatastoreVersion

Parameter	Type	Description
id	String	Specifies the version ID.
name	String	Version name.
flavors	Array of CdmClusterFlavor objects	Flavor information.

Table 4-35 CdmClusterFlavor

Parameter	Type	Description
cpu	Integer	CPU.
ram	Integer	Indicates the memory.
name	String	Flavor name
region	String	region.
typename	String	Type.
clusterMode	String	multinode cluster
status	String	Flavor status. Options:
str_id	String	Indicates the flavor ID.

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/datastores/736270b9-27c7-4f03-823b-447d8245e1c2/flavors
```

Example Responses

Status code: 200

The request is successful.

```
{
  "id": "736270b9-27c7-4f03-823b-447d8245e1c2",
  "dbname": "cdm",
  "versions": [ {
    "id": "e8a8b8cc-63f8-4fb5-8d4a-24c502317b11",
    "name": "2.9.3.300",
    "flavors": [ {
      "cpu": 4,
      "ram": 8,
      "name": "cdm.small",
      "region": "xxx-xxx-xxx",
      "typename": "cdm",
      "clusterMode": "sharding",
      "status": "abandon",
      "str_id": "a79fd5ae-1833-448a-88e8-3ea2b913e1f6"
    }
  ]
}
```

```
    }  
  }  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;  
import com.huaweicloud.sdk.cdm.v1.*;  
import com.huaweicloud.sdk.cdm.v1.model.*;  
  
public class ShowFlavorsSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        CdmClient client = CdmClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))  
            .build();  
        ShowFlavorsRequest request = new ShowFlavorsRequest();  
        request.withDatastoreId("{datastore_id}");  
        try {  
            ShowFlavorsResponse response = client.showFlavors(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8  
import os
```

```
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowFlavorsRequest()
        request.datastore_id = "{datastore_id}"
        response = client.show_flavors(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowFlavorsRequest{}
    request.DatastoreId = "{datastore_id}"
```



```
response, err := client.ShowFlavors(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The request is successful.
400	Request error
401	Authorization failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.6 Querying Details About a Flavor

Function

This API is used to query the details of a flavor with a specified ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/flavors/{flavor_id}

Table 4-36 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
flavor_id	Yes	String	Flavor ID. For details about how to obtain it, see Querying Version Flavors .

Request Parameters

Table 4-37 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Response Parameters

Status code: 200

Table 4-38 Response body parameters

Parameter	Type	Description
name	String	Flavor name
str_id	String	Flavor ID
flavor_detail	Array of flavorAttribute objects	List of flavor details

Table 4-39 flavorAttribute

Parameter	Type	Description
name	String	Flavor attribute name, such as mem and cpu
value	String	Flavor attribute value

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/flavors/a79fd5ae-1833-448a-88e8-3ea2b913e1f6
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "str_id": "a79fd5ae-1833-448a-88e8-3ea2b913e1f6",
  "name": "cdm.large",
  "flavor_detail": [ {
    "name": "cpu",
    "value": 8
  }, {
    "name": "mem",
    "value": 16
  }, {
    "name": "volumeType",
    "value": "SATA"
  }, {
    "name": "flavor",
    "value": "s6.2xlarge.2"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ShowFlavorDetailSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
```

```
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

CdmClient client = CdmClient.newBuilder()
    .withCredential(auth)
    .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
    .build();
ShowFlavorDetailRequest request = new ShowFlavorDetailRequest();
request.withFlavorId("{flavor_id}");
try {
    ShowFlavorDetailResponse response = client.showFlavorDetail(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowFlavorDetailRequest()
        request.flavor_id = "{flavor_id}"
        response = client.show_flavor_detail(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowFlavorDetailRequest{}
    request.FlavorId = "{flavor_id}"
    response, err := client.ShowFlavorDetail(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.

Status Code	Description
500	Internal service error. For details about the returned error code, see Error Codes .
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.7 Querying the Enterprise Project IDs of All Clusters

Function

This API is used to query the enterprise project IDs of all clusters in the current project.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/enterprise-projects

Table 4-40 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 4-41 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Response Parameters

Status code: 200

Table 4-42 Response body parameters

Parameter	Type	Description
resources	Array of CdmClusterEnterpriseProject objects	Enterprise projects of the cluster

Table 4-43 CdmClusterEnterpriseProject

Parameter	Type	Description
cluster_id	String	Cluster ID
sys_tags	Array of sys_tags objects	Enterprise projects

Table 4-44 sys_tags

Parameter	Type	Description
value	String	Enterprise project ID
key	String	The value is fixed at _sys_enterprise_project_id .

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/enterprise-projects
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "resources": [ [ {
    "cluster_id": "2b2a676f-0b91-4ad5-8c24-ec61be586fd1",
    "sys_tags": [ {
      "key": "_sys_enterprise_project_id",
      "value": "1ce45885-4033-40d2-bdde-d4dbaceb387d"
    } ]
  }, {
    "cluster_id": "387f8b24-c4b0-4211-97fe-745d0e88dc88",
    "sys_tags": [ {
      "key": "_sys_enterprise_project_id",
      "value": 0
    } ]
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ShowEnterpriseProjectsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowEnterpriseProjectsRequest request = new ShowEnterpriseProjectsRequest();
        try {
```



```
        ShowEnterpriseProjectsResponse response = client.showEnterpriseProjects(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowEnterpriseProjectsRequest()
        response = client.show_enterprise_projects(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
```

```
// In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := cdm.NewCdmClient(
    cdm.CdmClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ShowEnterpriseProjectsRequest{}
response, err := client.ShowEnterpriseProjects(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes .
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.8 Querying the Enterprise Project ID of a Specified Cluster

Function

This API is used to query the enterprise project ID of a specified cluster.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/clusters/{cluster_id}/enterprise-projects

Table 4-45 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
cluster_id	Yes	String	CDM cluster ID. For details about how to obtain it, see Querying the Cluster List .

Request Parameters

Table 4-46 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Response Parameters

Status code: 200

Table 4-47 Response body parameters

Parameter	Type	Description
sys_tags	Array of sys_tags objects	Enterprise projects

Table 4-48 sys_tags

Parameter	Type	Description
value	String	Enterprise project ID
key	String	The value is fixed at <code>_sys_enterprise_project_id</code> .

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/2b2a676f-0b91-4ad5-8c24-ec61be586fd1/enterprise-projects
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "sys_tags": [ {
    "key": "_sys_enterprise_project_id",
    "value": "1ce45885-4033-40d2-bdde-d4dbaceb387d"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ShowClusterEnterpriseProjectsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
```

```
environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

CdmClient client = CdmClient.newBuilder()
    .withCredential(auth)
    .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
    .build();

ShowClusterEnterpriseProjectsRequest request = new ShowClusterEnterpriseProjectsRequest();
request.withClusterId("{cluster_id}");
try {
    ShowClusterEnterpriseProjectsResponse response = client.showClusterEnterpriseProjects(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowClusterEnterpriseProjectsRequest()
        request.cluster_id = "{cluster_id}"
        response = client.show_cluster_enterprise_projects(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
```

```
print(e.request_id)
print(e.error_code)
print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowClusterEnterpriseProjectsRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ShowClusterEnterpriseProjects(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.

Status Code	Description
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.9 Query a Specified Instance in a Cluster

Function

This API is used to query a specified instance in a cluster.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/instances/{instance_id}

Table 4-49 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
instance_id	Yes	String	Instance ID. For details about how to obtain it, see Querying the Cluster List .

Request Parameters

Table 4-50 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Response Parameters

Status code: 200

Table 4-51 Response body parameters

Parameter	Type	Description
instance	CdmQueryClusterInstanceDetail object	Instance information

Table 4-52 CdmQueryClusterInstanceDetail

Parameter	Type	Description
configuration Status	String	Cluster configuration status. The options are as follows: <ul style="list-style-type: none"> • In-Sync: The configuration has been synchronized. • Applying: The cluster is being configured. • Sync-Failure: The configuration failed.
paramsGroupID	String	Configuration ID
type	String	Service type, which is cdm
role	String	Instance mode, which is Standalone
subnetid	String	Subnet ID of the instance
securegroup	String	Security group ID

Parameter	Type	Description
vpc	String	VPC ID of the instance
azcode	String	AZ name
region	String	Site name
created	String	Instance creation time in ISO 8601 format: YYYY-MM-DDThh:mm:ssZ
updated	String	Instance update time in ISO 8601 format: YYYY-MM-DDThh:mm:ssZ
name	String	Instance name
id	String	Instance ID
flavor	flavor object	VM flavor of a node. For details, see the descriptions of flavor parameters.
datastore	Datastore object	Cluster information. For details, see the descriptions of datastore parameters.
dbuser	String	Database user, which is cdm
payModel	Integer	Payment mode <ul style="list-style-type: none">• 0: pay-per-use• 1: yearly/monthly
publicip	String	Public IP address bound to the cluster
trafficip	String	Private IP address of the cluster
trafficipv6	String	Private IPv6 address of the cluster
cluster_id	String	Cluster ID

Table 4-53 flavor

Parameter	Type	Description
id	String	VM flavor ID
links	Array of ClusterLinks objects	Links

Table 4-54 ClusterLinks

Parameter	Type	Description
rel	String	Relationship

Parameter	Type	Description
href	String	Link address

Table 4-55 Datastore

Parameter	Type	Description
type	String	Type. Generally, the value is cdm .
version	String	Cluster version

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/instances/2c529048-ed06-4bcb-a48e-bf1800e1f496
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "instance": {
    "configurationStatus": "In-Sync",
    "paramsGroupId": "26084bb9-e74b-47d5-8be6-c0fbee9449d5",
    "type": "cdm",
    "subnetid": "9e4049b5-19a6-48fe-b5a2-2857c842fe56",
    "securegroup": "560a3642-ddb1-4e93-a4bb-e484ae975127",
    "vpc": "f35aee01-c4a3-47c1-8d92-9df430537de4",
    "azcode": "xxx-xxx-xxxa",
    "region": "xxx-xxx-xxx",
    "created": "2018-09-05T08:38:25",
    "updated": "2018-09-05T08:38:25",
    "name": "test-cdm-dn-1-1",
    "id": "2c529048-ed06-4bcb-a48e-bf1800e1f496",
    "flavor": {
      "id": "a79fd5ae-1833-448a-88e8-3ea2b913e1f6",
      "links": [ ]
    },
  },
  "datastore": {
    "type": "cdm",
    "version": "2.9.3.300"
  },
  "dbuser": "cdm",
  "payModel": 0,
  "publicip": "49.xx.xx.10",
  "trafficip": "192.168.0.128",
  "trafficipv6": null,
  "cluster_id": "2d9ac57e-3ebf-4557-86d5-89ae750ff61c"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ShowInstanceDetailSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowInstanceDetailRequest request = new ShowInstanceDetailRequest();
        request.withInstanceId("{instance_id}");
        try {
            ShowInstanceDetailResponse response = client.showInstanceDetail(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
```

example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = CdmClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(CdmRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ShowInstanceDetailRequest()
    request.instance_id = "{instance_id}"
    response = client.show_instance_detail(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowInstanceDetailRequest{}
    request.InstanceId = "{instance_id}"
    response, err := client.ShowInstanceDetail(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.10 Modifying a Cluster

Function

Modify the CDM cluster configuration.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1.1/{project_id}/cluster/modify/{cluster_id}

Table 4-56 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	CDM cluster ID. For details about how to obtain the CDM cluster ID, see Querying the Cluster List .

Request Parameters

Table 4-57 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
X-Language	Yes	String	Request language.

Table 4-58 Request body parameters

Parameter	Mandatory	Type	Description
autoOff	No	Boolean	The phone automatically shuts down.
scheduleBoot Off	No	Boolean	Scheduled shutdown.
scheduleBoot Time	No	String	Scheduled startup.

Parameter	Mandatory	Type	Description
scheduleOffTime	No	String	Scheduled shutdown time.
autoRemind	No	Boolean	Message notification.
phoneNum	No	String	Mobile number. A maximum of 20 mobile numbers can be entered and separated by commas (,).
email	No	String	Email address. A maximum of 20 email addresses can be entered and separated by commas (,).

Response Parameters

None

Example Requests

Modify the cluster configuration.

```
POST /v1.1/1551c7f6c808414d8e9f3c514a170f2e/cluster/modify/bae65496-643e-47ca-84af-948672de7eeb
{
  "autoOff" : false,
  "scheduleBootOff" : true,
  "scheduleBootTime" : "00:00:00",
  "scheduleOffTime" : "10:00:00",
  "autoRemind" : true,
  "phoneNum" : "xxx",
  "email" : "xxx@xxx.com"
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Modify the cluster configuration.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
```

```
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ModifyClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        ModifyClusterRequest request = new ModifyClusterRequest();
        request.withClusterId("{cluster_id}");
        CdmModifyClusterReq body = new CdmModifyClusterReq();
        body.withEmail("xxx@xxx.com");
        body.withPhoneNum("xxx");
        body.withAutoRemind(true);
        body.withScheduleOffTime("10:00:00");
        body.withScheduleBootTime("00:00:00");
        body.withScheduleBootOff(true);
        body.withAutoOff(false);
        request.withBody(body);
        try {
            ModifyClusterResponse response = client.modifyCluster(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Modify the cluster configuration.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
```



```
# In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = CdmClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(CdmRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ModifyClusterRequest()
    request.cluster_id = "{cluster_id}"
    request.body = CdmModifyClusterReq(
        email="xxx@xxx.com",
        phone_num="xxx",
        auto_remind=True,
        schedule_off_time="10:00:00",
        schedule_boot_time="00:00:00",
        schedule_boot_off=True,
        auto_off=False
    )
    response = client.modify_cluster(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Modify the cluster configuration.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())
```

```
request := &model.ModifyClusterRequest{}
request.ClusterId = "{cluster_id}"
emailCdmModifyClusterReq:= "xxx@xxx.com"
phoneNumCdmModifyClusterReq:= "xxx"
autoRemindCdmModifyClusterReq:= true
scheduleOffTimeCdmModifyClusterReq:= "10:00:00"
scheduleBootTimeCdmModifyClusterReq:= "00:00:00"
scheduleBootOffCdmModifyClusterReq:= true
autoOffCdmModifyClusterReq:= false
request.Body = &model.CdmModifyClusterReq{
    Email: &emailCdmModifyClusterReq,
    PhoneNum: &phoneNumCdmModifyClusterReq,
    AutoRemind: &autoRemindCdmModifyClusterReq,
    ScheduleOffTime: &scheduleOffTimeCdmModifyClusterReq,
    ScheduleBootTime: &scheduleBootTimeCdmModifyClusterReq,
    ScheduleBootOff: &scheduleBootOffCdmModifyClusterReq,
    AutoOff: &autoOffCdmModifyClusterReq,
}
response, err := client.ModifyCluster(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
202	The request is successful.
400	Request error.
401	Authentication failed.
403	No operation permission.
404	No resources found.
500	The internal API of the service is abnormal.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.11 Restarting a Cluster

Function

This API is used to restart a cluster.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1.1/{project_id}/clusters/{cluster_id}/action

Table 4-59 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID

Request Parameters

Table 4-60 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-61 Request body parameters

Parameter	Mandatory	Type	Description
restart	Yes	restart object	Cluster restart. For details about how to define the cluster to restart, see the descriptions of restart parameters.

Table 4-62 restart

Parameter	Mandatory	Type	Description
restartDelayTime	No	Integer	Restart delay, in seconds

Parameter	Mandatory	Type	Description
restartMode	No	String	Restart mode. <ul style="list-style-type: none"> ● IMMEDIATELY: immediate restart ● FORCELY: forcible restart ● SOFTLY: normal restart The default value is IMMEDIATELY . Forcibly restarting service processes will interrupt services and restart VMs in the cluster.
restartLevel	No	String	Restart level. The options are as follows: <ul style="list-style-type: none"> ● SERVICE: service restart ● VM: VM restart The default value is SERVICE .
type	Yes	String	Type of the cluster node. The value can only be cdm .
instance	No	String	This parameter is reserved. When restartLevel is set to SERVICE , this parameter is mandatory. Set it to an empty string.
group	No	String	This parameter is reserved. When restartLevel is set to SERVICE , this parameter is mandatory. Set it to an empty string.

Response Parameters

Status code: 200

Table 4-63 Response body parameters

Parameter	Type	Description
jobId	String	Job ID

Example Requests

Restart a cluster.

```
POST /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/bae65496-643e-47ca-84af-948672de7eeb/action
```

```
{
  "restart" : {
    "instance" : "",
    "type" : "cdm",
    "group" : ""
  }
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "jobId" : "ff8080815e59d92d015e5b27ccb0004d"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Restart a cluster.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class RestartClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        RestartClusterRequest request = new RestartClusterRequest();
        request.withClusterId("{cluster_id}");
        CdmRestartClusterReq body = new CdmRestartClusterReq();
        CdmRestartClusterReqRestart restartbody = new CdmRestartClusterReqRestart();
        restartbody.withType("cdm")
            .withInstance("")
            .withGroup("");
    }
}
```

```
body.withRestart(restartbody);
request.withBody(body);
try {
    RestartClusterResponse response = client.restartCluster(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Restart a cluster.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = RestartClusterRequest()
        request.cluster_id = "{cluster_id}"
        restartbody = CdmRestartClusterReqRestart(
            type="cdm",
            instance="",
            group=""
        )
        request.body = CdmRestartClusterReq(
            restart=restartbody
        )
        response = client.restart_cluster(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Restart a cluster.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.RestartClusterRequest{}
    request.ClusterId = "{cluster_id}"
    instanceRestart:= ""
    groupRestart:= ""
    restartbody := &model.CdmRestartClusterReqRestart{
        Type: "cdm",
        Instance: &instanceRestart,
        Group: &groupRestart,
    }
    request.Body = &model.CdmRestartClusterReq{
        Restart: restartbody,
    }
    response, err := client.RestartCluster(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.12 Starting a Cluster

Function

This API is used to start a cluster.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1.1/{project_id}/clusters/{cluster_id}/action

Table 4-64 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID

Request Parameters

Table 4-65 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-66 Request body parameters

Parameter	Mandatory	Type	Description
start	Yes	Object	Starting a cluster. This parameter is an empty object.

Response Parameters

Status code: 200

Table 4-67 Response body parameters

Parameter	Type	Description
jobId	Array of strings	Job ID

Example Requests

Start a cluster.

```
POST /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/bae65496-643e-47ca-84af-948672de7eeb/action
{
  "start" : { }
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "jobId" : [ "ff8080815e59d92d015e5b27ccb0004d" ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Start a cluster.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class StartClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        StartClusterRequest request = new StartClusterRequest();
        request.withClusterId("{cluster_id}");
        CdmStartClusterReq body = new CdmStartClusterReq();
        body.withStart(new Object());
        request.withBody(body);
        try {
            StartClusterResponse response = client.startCluster(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Start a cluster.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = StartClusterRequest()
        request.cluster_id = "{cluster_id}"
        request.body = CdmStartClusterReq(
            start={}
        )
        response = client.start_cluster(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Start a cluster.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()
```

```
client := cdm.NewCdmClient(  
    cdm.CdmClientBuilder().  
        WithRegion(region.ValueOf("<YOUR REGION>")).  
        WithCredential(auth).  
        Build())  
  
request := &model.StartClusterRequest{  
    request.ClusterId = "{cluster_id}"  
    var startCdmStartClusterReq interface{} = make(map[string]string)  
    request.Body = &model.CdmStartClusterReq{  
        Start: &startCdmStartClusterReq,  
    }  
    response, err := client.StartCluster(request)  
    if err == nil {  
        fmt.Printf("%v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.13 Stopping a Cluster (To Be Taken Offline)

Function

This API is used to stop a cluster.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1.1/{project_id}/clusters/{cluster_id}/action

Table 4-68 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID

Request Parameters

Table 4-69 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-70 Request body parameters

Parameter	Mandatory	Type	Description
stop	Yes	stop object	Cluster stop operation. For details, see the descriptions of stop parameters.

Table 4-71 stop

Parameter	Mandatory	Type	Description
stopMode	Yes	String	Stop mode. <ul style="list-style-type: none">• IMMEDIATELY: immediate stop• GRACEFULLY: graceful stop

Parameter	Mandatory	Type	Description
delayTime	No	Integer	Shutdown delay, in seconds. This parameter is valid only when stopMode is set to GRACEFULLY . If the value is -1 , the system waits until all jobs are complete and stops accepting new jobs. If the value is greater than 0 , the system stops the cluster after the specified delay and stops accepting new jobs.

Response Parameters

Status code: 200

Table 4-72 Response body parameters

Parameter	Type	Description
jobId	Array of strings	Job ID

Example Requests

Stopping a Cluster

```
POST /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/bae65496-643e-47ca-84af-948672de7eeb/action
{
  "stop": {
    "stopMode": "GRACEFULLY",
    "delayTime": -1
  }
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "jobId": [ "ff8080815e59d92d015e5b27ccb0004d" ]
}
```

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.14 Creating a Cluster

Function

This API is used to create a cluster.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1.1/{project_id}/clusters

Table 4-73 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Request Parameters

Table 4-74 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).
X-Language	Yes	String	Request language

Table 4-75 Request body parameters

Parameter	Mandatory	Type	Description
cluster	Yes	cluster object	Cluster object. For details, see the descriptions of cluster parameters.
auto_remind	No	Boolean	Whether to enable message notifications. If the function is enabled, you can configure a maximum of 20 mobile numbers or email addresses. You will be notified of job failures (only table/file migration jobs) and EIP exceptions by SMS message or email.
phone_num	No	String	Mobile number for receiving notifications
email	No	String	Email address for receiving notifications

Table 4-76 cluster

Parameter	Mandatory	Type	Description
scheduleBoot Time	No	String	Time for scheduled startup of a CDM cluster. The CDM cluster starts at this time every day.

Parameter	Mandatory	Type	Description
isScheduleBoo tOff	No	Boolean	Whether to enable scheduled startup/shutdown. The scheduled startup/shutdown and auto shutdown functions cannot be enabled at the same time.
instances	No	Array of instance objects	Node list. For details, see the descriptions of instances parameters.
datastore	No	Datastore object	Cluster information. For details, see the descriptions of datastore parameters.
extended_pro perties	No	ExtendedPro perties object	Extended attribute. For details, see the descriptions of extended_properties parameters.
scheduleOffTi me	No	String	Time for scheduled shutdown of a CDM cluster. The CDM cluster shuts down directly at this time every day without waiting for unfinished jobs to complete.
vpclId	No	String	VPC ID, which is used for configuring a network for the cluster.
name	No	String	Cluster name
sys_tags	No	Array of sys_tags objects	Enterprise project information. For details, see the descriptions of sys_tags parameters.
isAutoOff	No	Boolean	Whether to enable auto shutdown. The auto shutdown and scheduled startup/shutdown functions cannot be enabled at the same time. After auto shutdown is enabled, if no job is running in the cluster and no scheduled job is created, a cluster will automatically shut down 15 minutes later to reduce costs.

Table 4-77 instance

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	AZ where a cluster is located. It can be obtained from https://developer.huaweicloud.com/intl/en-us/endpoint .
nics	Yes	Array of nics objects	NIC list. A maximum of two NICs are supported. For details, see the descriptions of nics parameters.
flavorRef	Yes	String	Instance flavor. <ul style="list-style-type: none"> • a79fd5ae-1833-448a-88e8-3ea2b913e1f6: cdm.small with 2 vCPUs and 4 GB memory applicable to Proof of Concept (PoC) verification and development tests • fb8fe666-6734-4b11-bc6c-43d11db3c745: cdm.medium with 4 vCPUs and 8 GB memory applicable to the migration of a single database table with fewer than 10 million pieces of data • 5ddb1071-c5d7-40e0-a874-8a032e81a697: cdm.large with 8 vCPUs and 16 GB memory applicable to the migration of a single database table with 10 million pieces of data or more • 6ddb1072-c5d7-40e0-a874-8a032e81a698: cdm.xlarge with 16 vCPUs and 32 GB memory applicable to TB-level data migration requiring 10GE high-speed bandwidth
type	Yes	String	Node type. Currently, only cdm is available.

Table 4-78 nics

Parameter	Mandatory	Type	Description
securityGroupId	Yes	String	Security group ID
net-id	Yes	String	Subnet ID

Table 4-79 Datastore

Parameter	Mandatory	Type	Description
type	No	String	Type. Generally, the value is cdm .
version	No	String	Cluster version

Table 4-80 ExtendedProperties

Parameter	Mandatory	Type	Description
workspaceId	No	String	Workspace ID
resourceId	No	String	Resource ID
trial	No	String	Whether the cluster is a trial cluster

Table 4-81 sys_tags

Parameter	Mandatory	Type	Description
value	Yes	String	Enterprise project ID
key	Yes	String	The value is fixed at _sys_enterprise_project_id .

Response Parameters

Status code: 202

Table 4-82 Response body parameters

Parameter	Type	Description
name	String	Cluster name

Parameter	Type	Description
id	String	Cluster ID
task	Task object	Task information
datastore	Datastore object	Cluster information
instances	Array of ClusterInstance objects	Cluster node information

Table 4-83 Task

Parameter	Type	Description
id	String	Task ID
name	String	Task name

Table 4-84 Datastore

Parameter	Type	Description
type	String	Type. Generally, the value is cdm .
version	String	Cluster version

Table 4-85 ClusterInstance

Parameter	Type	Description
id	String	Node VM ID
name	String	Name of the VM on the node
type	String	Node type. Currently, only cdm is available.
shard_id	String	Shard ID

Example Requests

Creating a CDM cluster whose version is 1.8.10 and name is **cdm-ab82**

```
POST /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters
```

```
{
  "cluster": {
    "scheduleBootTime": "",
    "isScheduleBootOff": false,

```

```
"instances" : [ {
  "availability_zone" : "xx-xxx",
  "nics" : [ {
    "securityGroupId" : "c37852d2-2d12-41cb-af47-65c80e995c80",
    "net-id" : "2d120298-6130-44d4-a438-454912fff901"
  } ],
  "flavorRef" : "5ddb1071-c5d7-40e0-a874-8a032e81a697",
  "type" : "cdm"
} ],
"datastore" : {
  "type" : "cdm",
  "version" : "1.8.10"
},
"scheduleOffTime" : "",
"vpcid" : "67c06084-2212-4242-bcd4-d2144c2385a9",
"name" : "cdm-ab82",
"sys_tags" : [ {
  "value" : "1ce45885-4033-40d2-bdde-d4dbaceb387d",
  "key" : "_sys_enterprise_project_id"
} ],
"isAutoOff" : false
},
"auto_remind" : false,
"phone_num" : "",
"email" : ""
}
```

Example Responses

Status code: 202

Accepted.

```
{
  "id" : "befc862c-9286-46a0-a1d6-300d98b63aad",
  "name" : "cdm-4ef213",
  "task" : {
    "id" : "2c9080047f1b1185017f1ef6ad0500ac",
    "name" : "rdsCreateBackupJob"
  },
  "datastore" : {
    "type" : "cdm",
    "version" : "2.9.1.100"
  },
  "instances" : [ {
    "id" : "b2672e7d-2faf-423f-96bb-0664cd743cfd",
    "name" : "cdm-4ef213-cdm-dn-1-1",
    "type" : "cdm",
    "shard_id" : "dn-1"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Creating a CDM cluster whose version is 1.8.10 and name is **cdm-ab82**

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
```

```
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateClusterRequest request = new CreateClusterRequest();
        CdmCreateClusterReq body = new CdmCreateClusterReq();
        List<SysTags> listClusterSysTags = new ArrayList<>();
        listClusterSysTags.add(
            new SysTags()
                .withValue("1ce45885-4033-40d2-bdde-d4dbaceb387d")
                .withKey("_sys_enterprise_project_id")
        );
        Datastore datastoreCluster = new Datastore();
        datastoreCluster.withType("cdm")
            .withVersion("1.8.10");
        List<Nics> listInstancesNics = new ArrayList<>();
        listInstancesNics.add(
            new Nics()
                .withSecurityGroupId("c37852d2-2d12-41cb-af47-65c80e995c80")
                .withNetId("2d120298-6130-44d4-a438-454912fff901")
        );
        List<Instance> listClusterInstances = new ArrayList<>();
        listClusterInstances.add(
            new Instance()
                .withAvailabilityZone("xx-xxx")
                .withNics(listInstancesNics)
                .withFlavorRef("5ddb1071-c5d7-40e0-a874-8a032e81a697")
                .withType("cdm")
        );
        CdmCreateClusterReqCluster clusterbody = new CdmCreateClusterReqCluster();
        clusterbody.withScheduleBootTime("")
            .withScheduleBootOff(false)
            .withInstances(listClusterInstances)
            .withDatastore(datastoreCluster)
            .withScheduleOffTime("")
            .withVpId("67c06084-2212-4242-bcd4-d2144c2385a9")
            .withName("cdm-ab82")
            .withSysTags(listClusterSysTags)
            .withAutoOff(false);
        body.withEmail("");
        body.withPhoneNum("");
        body.withAutoRemind(false);
        body.withCluster(clusterbody);
        request.withBody(body);
    }
}
```

```
try {
    CreateClusterResponse response = client.createCluster(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Creating a CDM cluster whose version is 1.8.10 and name is **cdm-ab82**

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateClusterRequest()
        listSysTagsCluster = [
            SysTags(
                value="1ce45885-4033-40d2-bdde-d4dbaceb387d",
                key="_sys_enterprise_project_id"
            )
        ]
        datastoreCluster = Datastore(
            type="cdm",
            version="1.8.10"
        )
        listNicsInstances = [
            Nics(
                security_group_id="c37852d2-2d12-41cb-af47-65c80e995c80",
                net_id="2d120298-6130-44d4-a438-454912fff901"
            )
        ]
        listInstancesCluster = [
            Instance(
                availability_zone="xx-xxx",
                nics=listNicsInstances,
                flavor_ref="5ddb1071-c5d7-40e0-a874-8a032e81a697",
```

```
        type="cdm"
    )
]
clusterbody = CdmCreateClusterReqCluster(
    schedule_boot_time="",
    is_schedule_boot_off=False,
    instances=listInstancesCluster,
    datastore=datastoreCluster,
    schedule_off_time="",
    vpc_id="67c06084-2212-4242-bcd4-d2144c2385a9",
    name="cdm-ab82",
    sys_tags=listSysTagsCluster,
    is_auto_off=False
)
request.body = CdmCreateClusterReq(
    email="",
    phone_num="",
    auto_remind=False,
    cluster=clusterbody
)
response = client.create_cluster(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Creating a CDM cluster whose version is 1.8.10 and name is **cdm-ab82**

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateClusterRequest{}
    var listSysTagsCluster = []model.SysTags{
        {
            Value: "1ce45885-4033-40d2-bdde-d4dbaceb387d",
            Key: "_sys_enterprise_project_id",
        }
    }
}
```



```
    },
  }
  typeDatastore:= "cdm"
  versionDatastore:= "1.8.10"
  datastoreCluster := &model.Datastore{
    Type: &typeDatastore,
    Version: &versionDatastore,
  }
  var listNicsInstances = []model.Nics{
    {
      SecurityGroupId: "c37852d2-2d12-41cb-af47-65c80e995c80",
      NetId: "2d120298-6130-44d4-a438-454912fff901",
    },
  },
  var listInstancesCluster = []model.Instance{
    {
      AvailabilityZone: "xx-xxx",
      Nics: listNicsInstances,
      FlavorRef: "5ddb1071-c5d7-40e0-a874-8a032e81a697",
      Type: "cdm",
    },
  },
  scheduleBootTimeCluster:= ""
  isScheduleBootOffCluster:= false
  scheduleOffTimeCluster:= ""
  vpcIdCluster:= "67c06084-2212-4242-bcd4-d2144c2385a9"
  nameCluster:= "cdm-ab82"
  isAutoOffCluster:= false
  clusterbody := &model.CdmCreateClusterReqCluster{
    ScheduleBootTime: &scheduleBootTimeCluster,
    IsScheduleBootOff: &isScheduleBootOffCluster,
    Instances: &listInstancesCluster,
    Datastore: datastoreCluster,
    ScheduleOffTime: &scheduleOffTimeCluster,
    VpcId: &vpcIdCluster,
    Name: &nameCluster,
    SysTags: &listSysTagsCluster,
    IsAutoOff: &isAutoOffCluster,
  }
  emailCdmCreateClusterReq:= ""
  phoneNumCdmCreateClusterReq:= ""
  autoRemindCdmCreateClusterReq:= false
  request.Body = &model.CdmCreateClusterReq{
    Email: &emailCdmCreateClusterReq,
    PhoneNum: &phoneNumCdmCreateClusterReq,
    AutoRemind: &autoRemindCdmCreateClusterReq,
    Cluster: clusterbody,
  }
  response, err := client.CreateCluster(request)
  if err == nil {
    fmt.Printf("%+v\n", response)
  } else {
    fmt.Println(err)
  }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
202	Accepted.
400	Request error.
401	Authorization failed.
403	No operation permissions.
404	No resources found.
500	Internal interface error.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.1.15 Querying the Cluster List

Function

This API is used to query the cluster list.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/clusters

Table 4-86 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Request Parameters

Table 4-87 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-88 Response body parameters

Parameter	Type	Description
clusters	Array of clusters objects	Cluster list. For details, see the descriptions of clusters parameters.

Table 4-89 clusters

Parameter	Type	Description
customerConfig	CustomerConfig object	User configuration
datastore	Datastore object	CDM information
instances	Array of ClusterDetail Instance objects	Cluster node information. For details, see the descriptions of instances parameters.
azName	String	AZ name
dbuser	String	Database user
flavorName	String	Flavor name
recentEvent	Integer	Number of events
isAutoOff	Boolean	Automatic shutdown

Parameter	Type	Description
isScheduleBoo tOff	Boolean	Whether to enable scheduled startup/ shutdown. The scheduled startup/shutdown and auto shutdown functions cannot be enabled at the same time.
clusterMode	String	Cluster mode: sharding
namespace	String	Namespace
task	ClusterTask object	Task information
publicEndpoin t	String	EIP bound to the cluster
actionProgres s	ActionProgre ss object	Cluster operation progress, which consists of a key and a value. The key indicates an ongoing task, and the value indicates the progress of the ongoing task. An example is "action_progress":{"SNAPSHOTTING":"16%"}.
created	String	Cluster creation time in ISO 8601 format: YYYY-MM-DDThh:mm:ssZ
bakExpectedS tartTime	String	Start time
bakKeepDay	Integer	Retention period
name	String	Cluster name
statusDetail	String	Cluster status: normal
id	String	Cluster ID
isFrozen	String	Whether the cluster is frozen. The value can be 0 (not frozen) or 1 (frozen).
updated	String	Cluster update time in ISO 8601 format: YYYY- MM-DDThh:mm:ssZ
status	String	Cluster status. The options are as follows: <ul style="list-style-type: none">● 100: creating● 200: normal● 300: failed● 303: creation failed● 500: restarting● 800: frozen● 900: stopped● 910: stopping● 920: starting

Parameter	Type	Description
failedReasons	FailedReasons object	Failure cause. If this parameter is left empty, the cluster is in normal state.

Table 4-90 CustomerConfig

Parameter	Type	Description
failureRemind	String	Failure notification
clusterName	String	Cluster type
serviceProvider	String	Service provider
localDisk	String	Whether the disk is a local disk
ssl	String	Whether to enable SSL
createFrom	String	Source
resourceId	String	Resource ID
flavorType	String	Flavor type
workspaceId	String	Workspace ID
trial	String	Trial

Table 4-91 Datastore

Parameter	Type	Description
type	String	Type. Generally, the value is cdm .
version	String	Cluster version

Table 4-92 ClusterDetailInstance

Parameter	Type	Description
flavor	flavor object	VM flavor of a node. For details, see the descriptions of flavor parameters.
volume	volume object	Disk information of a node. For details, see the descriptions of volume parameters.

Parameter	Type	Description
status	String	Node status <ul style="list-style-type: none">● 100: creating● 200: normal● 300: failed● 303: failed to be created● 400: deleted● 800: frozen
actions	Array of strings	Node operation status <ul style="list-style-type: none">● REBOOTING: restarting● RESTORING: restoring● REBOOT_FAILURE: failed to restart
type	String	Node type. Currently, only cdm is available.
id	String	Node VM ID
name	String	Name of the VM on the node
isFrozen	String	Whether the node is frozen. The value can be 0 (not frozen) or 1 (frozen).
components	String	Components
config_status	String	Node configuration status. The value is null when the cluster list is queried. <ul style="list-style-type: none">● In-Sync: The configuration has been synchronized.● Applying: The configuration is in progress.● Sync-Failure: The configuration fails.
role	String	Instance role
group	String	Group
links	Array of ClusterLinks objects	Links (null is returned for querying the cluster list)
paramsGroupID	String	Group ID
publicIp	String	Public IP address
manageIp	String	Management IP address
trafficIp	String	Traffic IP address
shard_id	String	Slice ID
manage_fix_ip	String	Management fix IP address

Parameter	Type	Description
private_ip	String	Private IP address
internal_ip	String	Internal IP address
resource	Array of Resource objects	Resource information (null is returned for querying the cluster list)

Table 4-93 flavor

Parameter	Type	Description
id	String	VM flavor ID
links	Array of ClusterLinks objects	Links

Table 4-94 volume

Parameter	Type	Description
type	String	Type of disks on the node. Only local disks are supported.
size	Long	Size of the disk on the node (GB)

Table 4-95 ClusterLinks

Parameter	Type	Description
rel	String	Relationship
href	String	Link address

Table 4-96 Resource

Parameter	Type	Description
resource_id	String	Resource ID
resource_type	String	Resource type: server

Table 4-97 ClusterTask

Parameter	Type	Description
description	String	Task description
id	String	Task ID
name	String	Task name

Table 4-98 ActionProgress

Parameter	Type	Description
CREATING	String	Cluster creation progress, for example, 29%
GROWING	String	Cluster expansion progress, for example, 29%
RESTORING	String	Cluster restoration progress, for example, 29%
SNAPSHOTTING	String	Cluster snapshotting progress, for example, 29%
REPAIRING	String	Cluster repairing progress, for example, 29%

Table 4-99 FailedReasons

Parameter	Type	Description
CREATE_FAILED	CREATE_FAILED object	Cause of the cluster creation failure

Table 4-100 CREATE_FAILED

Parameter	Type	Description
errorCode	String	Error code
errorMsg	String	Failure cause

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters
```

Example Responses

Status code: 200

Request succeeded.

```
{  
  "clusters": [ {
```



```
"publicEndpoint" : "49.xx.xx.10",
"actionProgress" : { },
"created" : "2018-09-05T08:38:25",
"name" : "cdm-c018",
"statusDetail" : "Normal",
"id" : "bae65496-643e-47ca-84af-948672de7eeb",
"isFrozen" : "0",
"updated" : "2018-09-05T08:38:25",
"status" : "200"
} ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ListClustersSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        ListClustersRequest request = new ListClustersRequest();
        try {
            ListClustersResponse response = client.listClusters(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListClustersRequest()
        response = client.list_clusters(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
```

```
Build()  
  
request := &model.ListClustersRequest{}  
response, err := client.ListClusters(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authorization failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.2 Job Management

4.2.1 Querying a Job

Function

This API is used to query jobs.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/clusters/{cluster_id}/cdm/job/{job_name}

Table 4-101 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID
job_name	Yes	String	Job name. When this parameter is set to all , all jobs are to be queried.

Table 4-102 Query Parameters

Parameter	Mandatory	Type	Description
filter	No	String	When job_name is all , this parameter is used for fuzzy job filtering.
page_no	No	Integer	Page number
page_size	No	Integer	Number of jobs on each page. The value ranges from 10 to 100.
jobType	No	String	Type of the jobs to be queried <ul style="list-style-type: none">• jobType=NORMAL_JOB: table/file migration job• jobType=BATCH_JOB: entire DB migration job• jobType=SCENARIO_JOB: scenario migration job If this parameter is not specified, only table/file migration jobs are queried by default.

Request Parameters

Table 4-103 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-104 Response body parameters

Parameter	Type	Description
total	Integer	Number of jobs. The value is 0 for querying a single job.
jobs	Array of Job objects	Job list. For details, see the descriptions of jobs parameters.
page_no	Integer	Page number. Jobs on the specified page will be returned.
page_size	Integer	Number of jobs on each page

Table 4-105 Job

Parameter	Type	Description
job_type	String	Job type <ul style="list-style-type: none">• NORMAL_JOB: table/file migration• BATCH_JOB: entire DB migration• SCENARIO_JOB: scenario migration

Parameter	Type	Description
from-connector-name	String	Source link type. The corresponding link parameters are as follows: <ul style="list-style-type: none">● generic-jdbc-connector: link to relational database● obs-connector: link to OBS● hdfs-connector: link to HDFS● hbase-connector: link to HBase and link to CloudTable● hive-connector: link to Hive● ftp-connector/sftp-connector: link to an FTP or SFTP server● mongodb-connector: link to MongoDB● redis-connector: link to Redis/DCS● kafka-connector: link to Kafka● dis-connector: link to DIS● elasticsearch-connector: link to Elasticsearch/Cloud Search Service (CSS)● [dli-connector: link to DLI] (tag:nohcs)● http-connector: link to HTTP/HTTPS servers (No link parameters are required.)● dms-kafka-connector: link to DMS Kafka
to-config-values	ConfigValues object	Destination link parameters, which vary depending on the destination. For details, see Destination Job Parameters .
to-link-name	String	Name of the destination link, that is, the name of the link created through the API used to create a link
driver-config-values	ConfigValues object	Job parameters, such as Retry upon Failure and Concurrent Extractors . For details, see Job Parameter Description .
from-config-values	ConfigValues object	Source link parameters, which vary depending on the source. For details, see Source Job Parameters .

Parameter	Type	Description
to-connector-name	String	Destination link type. The corresponding link parameters are as follows: <ul style="list-style-type: none">● generic-jdbc-connector: link to relational database● obs-connector: link to OBS● hdfs-connector: link to HDFS● hbase-connector: link to HBase and link to CloudTable● hive-connector: link to Hive● ftp-connector/sftp-connector: link to an FTP or SFTP server● mongodb-connector: link to MongoDB● redis-connector: link to Redis/DCS● kafka-connector: link to Kafka● dis-connector: link to DIS● elasticsearch-connector: link to Elasticsearch/Cloud Search Service (CSS)● [dli-connector: link to DLI] (tag:nohcs)● http-connector: link to HTTP/HTTPS servers (No link parameters are required.)● dms-kafka-connector: link to DMS Kafka
name	String	Job name, which contains 1 to 240 characters
from-link-name	String	Name of the source link, that is, the name of the link created through the API used to create a link
creation-user	String	User who created the job. The value is generated by the system.
creation-date	Long	Time when the job was created, accurate to millisecond. The value is generated by the system.
update-date	Long	Time when the job was last updated, accurate to millisecond. The value is generated by the system.
is_incre_job	Boolean	Whether the job is an incremental job. This parameter has been discarded.
flag	Integer	Whether the job is a scheduled job. If yes, the value is 1 . Otherwise, the value is 0 . The value is generated by the system based on the scheduled task configuration.

Parameter	Type	Description
files_read	Integer	Number of read files. The value is generated by the system.
update-user	String	User who last updated the job. The value is generated by the system.
external_id	String	ID of the job to be executed. For a local job, the value is in the format of job_local1202051771_0002 . For a DLI job, the value is the DLI job ID, for example, **"12345"**. The value is generated by the system and does not need to be set.
type	String	Job type. The value of this parameter is the same as that of job_type . The options are as follows: <ul style="list-style-type: none">● NORMAL_JOB: table/file migration job● BATCH_JOB: entire DB migration job● SCENARIO_JOB: scenario migration job
execute_start_date	Long	Time when the last task was started, accurate to millisecond. The value is generated by the system.
delete_rows	Integer	Number of rows deleted by an incremental job. This parameter is deprecated.
enabled	Boolean	Whether the link is enabled. The value is generated by the system.
bytes_written	Long	Number of bytes written by the job. The value is generated by the system.
id	Integer	Job ID, which is generated by the system
is_use_sql	Boolean	Whether to use SQL statements. The value is generated by the system based on whether SQL statements are used for source data extraction. You do not need to set this parameter.
update_rows	Integer	Number of updated rows in an incremental job. This parameter is deprecated.
group_name	String	Group name
bytes_read	Long	Number of bytes read by the job. The value is generated by the system.
execute_update_date	Long	Time when the last task was updated, accurate to millisecond. The value is generated by the system.

Parameter	Type	Description
write_rows	Integer	Number of rows written by an incremental job. This parameter is deprecated.
rows_written	Integer	Number of rows written by the job. The value is generated by the system.
rows_read	Long	Number of rows read by the job. The value is generated by the system.
files_written	Integer	Number of written files. The value is generated by the system.
is_incrementing	Boolean	Whether the job is an incremental job. Similar to parameter is_incre_job , this parameter is deprecated.
execute_create_date	Long	Time when the last task was created, accurate to millisecond. The value is generated by the system.
status	String	Job execution status <ul style="list-style-type: none"> ● BOOTING: The job is starting. ● RUNNING: The job is running. ● SUCCEEDED: The job was successfully executed. ● FAILED: The job execution failed. ● NEW: The job was not executed.

Table 4-106 ConfigValues

Parameter	Type	Description
configs	Array of configs objects	The data structures of source link parameters, destination link parameters, and job parameters are the same. However, the inputs parameter varies. For details, see the descriptions of configs parameters.
extended-configs	extended-configs object	Extended configuration. For details, see the descriptions of extended-configs parameters. The extended configuration is not open to external systems. You do not need to set it.

Table 4-107 configs

Parameter	Type	Description
inputs	Array of Input objects	Input parameter list. Each element in the list is in <i>name,value</i> format. For details, see the descriptions of inputs parameters. In the from-config-values data structure, the value of this parameter varies with the source link type. For details, see section "Source Job Parameters" in the <i>Cloud Data Migration User Guide</i> . In the to-config-values data structure, the value of this parameter varies with the destination link type. For details, see section "Destination Job Parameters" in the <i>Cloud Data Migration User Guide</i> . For details about the inputs parameter in the driver-config-values data structure, see the job parameter descriptions.
name	String	Configuration name. The value is fromJobConfig for a source job, toJobConfig for a destination job, and linkConfig for a link.
id	Integer	Configuration ID, which is generated by the system. You do not need to set this parameter.
type	String	Configuration type, which is generated by the system. You do not need to set this parameter. The value can be LINK (for link management APIs) or JOB (for job management APIs).

Table 4-108 Input

Parameter	Type	Description
name	String	Parameter name. <ul style="list-style-type: none">For link management APIs, parameter names start with linkConfig. The parameters vary depending on the link type. For details, see the parameter descriptions of the corresponding link in Link Parameters.For job management APIs, source link parameter names start with fromJobConfig. For details, see the source job parameters in Source Job Parameters. Destination link parameter names start with toJobConfig. For details, see Destination Job Parameters. For details about job parameters, see the task parameter descriptions in Job Parameters.

Parameter	Type	Description
value	Object	Parameter value, which must be a string.
type	String	Value type, such as STRING and INTEGER . The value is set by the system.

Table 4-109 extended-configs

Parameter	Type	Description
name	String	Extended configuration name. This parameter is unavailable for external systems and does not need to be set.
value	String	Extended configuration value. This parameter is unavailable for external systems and does not need to be set.

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/job/all?jobType=NORMAL_JOB
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "total": 1,
  "jobs": [ {
    "job_type": "NORMAL_JOB",
    "from-connector-name": "elasticsearch-connector",
    "to-config-values": {
      "configs": [ {
        "inputs": [ {
          "name": "toJobConfig.streamName",
          "value": "dis-lkGm"
        } ],
        "name": "toJobConfig.separator",
        "value": "|"
      }, {
        "name": "toJobConfig.columnList",
        "value": "1&2&3"
      } ],
      "name": "toJobConfig"
    } ]
  },
  "to-link-name": "dis",
  "driver-config-values": {
    "configs": [ {
      "inputs": [ {
        "name": "throttlingConfig.numExtractors",
        "value": "1"
      } ],
      "name": "throttlingConfig.submitToCluster",
      "value": "false"
    } ]
  }
}
```

```
    }, {
      "name": "throttlingConfig.numLoaders",
      "value": "1"
    }, {
      "name": "throttlingConfig.recordDirtyData",
      "value": "false"
    }
  ],
  "name": "throttlingConfig"
}, {
  "inputs": [],
  "name": "jarConfig"
}, {
  "inputs": [ {
    "name": "schedulerConfig.isSchedulerJob",
    "value": "false"
  }
  ], {
    "name": "schedulerConfig.disposableType",
    "value": "NONE"
  }
  ],
  "name": "schedulerConfig"
}, {
  "inputs": [],
  "name": "transformConfig"
}, {
  "inputs": [ {
    "name": "retryJobConfig.retryJobType",
    "value": "NONE"
  }
  ],
  "name": "retryJobConfig"
}
]
},
"from-config-values": {
  "configs": [ {
    "inputs": [ {
      "name": "fromJobConfig.index",
      "value": "52est"
    }
  ], {
    "name": "fromJobConfig.type",
    "value": "est_array"
  }, {
    "name": "fromJobConfig.columnList",
    "value": "array_f1_int:long&array_f2_text:string&array_f3_object:nested"
  }, {
    "name": "fromJobConfig.splitNestedField",
    "value": "false"
  }
  ],
  "name": "fromJobConfig"
}
]
},
"to-connector-name": "dis-connector",
"name": "es_css",
"from-link-name": "css"
}],
"page_no": 1,
"page_size": 10
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
```

```
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ShowJobsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowJobsRequest request = new ShowJobsRequest();
        request.withClusterId("{cluster_id}");
        request.withJobName("{job_name}");
        try {
            ShowJobsResponse response = client.showJobs(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)
```

```
client = CdmClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(CdmRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ShowJobsRequest()
    request.cluster_id = "{cluster_id}"
    request.job_name = "{job_name}"
    response = client.show_jobs(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowJobsRequest{}
    request.ClusterId = "{cluster_id}"
    request.JobName = "{job_name}"
    response, err := client.ShowJobs(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.

Error Codes

See [Error Codes](#).

4.2.2 Deleting a Job

Function

This API is used to delete a job.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v1.1/{project_id}/clusters/{cluster_id}/cdm/job/{job_name}

Table 4-110 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID
job_name	Yes	String	Job name

Request Parameters

Table 4-111 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 500

Table 4-112 Response body parameters

Parameter	Type	Description
errCode	String	Error code
externalMessage	String	Error message

Example Requests

```
DELETE /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-  
e7af1fac7920/cdm/job/jdbc2hive
```

Example Responses

Status code: 500

Internal service error. For details about the returned error code, see Error Codes.

```
{  
  "errCode" : "Cdm.0100",  
  "externalMessage" : "Job[jdbc2hive] doesn't exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;  
import com.huaweicloud.sdk.cdm.v1.*;  
import com.huaweicloud.sdk.cdm.v1.model.*;  
  
public class DeleteJobSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)
```



```
        .withAk(ak)
        .withSk(sk);

CdmClient client = CdmClient.newBuilder()
    .withCredential(auth)
    .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
    .build();
DeleteJobRequest request = new DeleteJobRequest();
request.withClusterId("{cluster_id}");
request.withJobName("{job_name}");
try {
    DeleteJobResponse response = client.deleteJob(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteJobRequest()
        request.cluster_id = "{cluster_id}"
        request.job_name = "{job_name}"
        response = client.delete_job(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteJobRequest{}
    request.ClusterId = "{cluster_id}"
    request.JobName = "{job_name}"
    response, err := client.DeleteJob(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.

Status Code	Description
500	Internal service error. For details about the returned error code, see Error Codes.

Error Codes

See [Error Codes](#).

4.2.3 Modifying a Job

Function

This API is used to modify a job.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1.1/{project_id}/clusters/{cluster_id}/cdm/job/{job_name}

Table 4-113 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID
job_name	Yes	String	Job name

Request Parameters

Table 4-114 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-115 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of Job objects	Job list. For details, see the descriptions of jobs parameters.

Table 4-116 Job

Parameter	Mandatory	Type	Description
job_type	Yes	String	Job type <ul style="list-style-type: none">• NORMAL_JOB: table/file migration• BATCH_JOB: entire DB migration• SCENARIO_JOB: scenario migration

Parameter	Mandatory	Type	Description
from-connector-name	Yes	String	<p>Source link type. The corresponding link parameters are as follows:</p> <ul style="list-style-type: none"> • generic-jdbc-connector: link to relational database • obs-connector: link to OBS • hdfs-connector: link to HDFS • hbase-connector: link to HBase and link to CloudTable • hive-connector: link to Hive • ftp-connector/sftp-connector: link to an FTP or SFTP server • mongodb-connector: link to MongoDB • redis-connector: link to Redis/DCS • kafka-connector: link to Kafka • dis-connector: link to DIS • elasticsearch-connector: link to Elasticsearch/Cloud Search Service (CSS) • [dli-connector]: link to DLI (tag:nohcs) • http-connector: link to HTTP/HTTPS servers (No link parameters are required.) • dms-kafka-connector: link to DMS Kafka
to-config-values	Yes	ConfigValues object	Destination link parameters, which vary depending on the destination. For details, see Destination Job Parameters .
to-link-name	Yes	String	Name of the destination link, that is, the name of the link created through the API used to create a link

Parameter	Mandatory	Type	Description
driver-config-values	Yes	ConfigValues object	Job parameters, such as Retry upon Failure and Concurrent Extractors . For details, see Job Parameter Description .
from-config-values	Yes	ConfigValues object	Source link parameters, which vary depending on the source. For details, see Source Job Parameters .
to-connector-name	Yes	String	Destination link type. The corresponding link parameters are as follows: <ul style="list-style-type: none"> • generic-jdbc-connector: link to relational database • obs-connector: link to OBS • hdfs-connector: link to HDFS • hbase-connector: link to HBase and link to CloudTable • hive-connector: link to Hive • ftp-connector/sftp-connector: link to an FTP or SFTP server • mongodb-connector: link to MongoDB • redis-connector: link to Redis/DCS • kafka-connector: link to Kafka • dis-connector: link to DIS • elasticsearch-connector: link to Elasticsearch/Cloud Search Service (CSS) • [dli-connector: link to DLI] (tag:nohcs) • http-connector: link to HTTP/HTTPS servers (No link parameters are required.) • dms-kafka-connector: link to DMS Kafka
name	Yes	String	Job name, which contains 1 to 240 characters

Parameter	Mandatory	Type	Description
from-link-name	Yes	String	Name of the source link, that is, the name of the link created through the API used to create a link
creation-user	No	String	User who created the job. The value is generated by the system.
creation-date	No	Long	Time when the job was created, accurate to millisecond. The value is generated by the system.
update-date	No	Long	Time when the job was last updated, accurate to millisecond. The value is generated by the system.
is_incre_job	No	Boolean	Whether the job is an incremental job. This parameter has been discarded.
flag	No	Integer	Whether the job is a scheduled job. If yes, the value is 1 . Otherwise, the value is 0 . The value is generated by the system based on the scheduled task configuration.
files_read	No	Integer	Number of read files. The value is generated by the system.
update-user	No	String	User who last updated the job. The value is generated by the system.
external_id	No	String	ID of the job to be executed. For a local job, the value is in the format of job_local1202051771_0002 . For a DLI job, the value is the DLI job ID, for example, ***12345** . The value is generated by the system and does not need to be set.

Parameter	Mandatory	Type	Description
type	No	String	Job type. The value of this parameter is the same as that of job_type . The options are as follows: <ul style="list-style-type: none">• NORMAL_JOB: table/file migration job• BATCH_JOB: entire DB migration job• SCENARIO_JOB: scenario migration job
execute_start_date	No	Long	Time when the last task was started, accurate to millisecond. The value is generated by the system.
delete_rows	No	Integer	Number of rows deleted by an incremental job. This parameter is deprecated.
enabled	No	Boolean	Whether the link is enabled. The value is generated by the system.
bytes_written	No	Long	Number of bytes written by the job. The value is generated by the system.
id	No	Integer	Job ID, which is generated by the system
is_use_sql	No	Boolean	Whether to use SQL statements. The value is generated by the system based on whether SQL statements are used for source data extraction. You do not need to set this parameter.
update_rows	No	Integer	Number of updated rows in an incremental job. This parameter is deprecated.
group_name	No	String	Group name
bytes_read	No	Long	Number of bytes read by the job. The value is generated by the system.
execute_update_date	No	Long	Time when the last task was updated, accurate to millisecond. The value is generated by the system.

Parameter	Mandatory	Type	Description
write_rows	No	Integer	Number of rows written by an incremental job. This parameter is deprecated.
rows_written	No	Integer	Number of rows written by the job. The value is generated by the system.
rows_read	No	Long	Number of rows read by the job. The value is generated by the system.
files_written	No	Integer	Number of written files. The value is generated by the system.
is_incrementing	No	Boolean	Whether the job is an incremental job. Similar to parameter is_incre_job , this parameter is deprecated.
execute_create_date	No	Long	Time when the last task was created, accurate to millisecond. The value is generated by the system.
status	No	String	Job execution status <ul style="list-style-type: none"> ● BOOTING: The job is starting. ● RUNNING: The job is running. ● SUCCEEDED: The job was successfully executed. ● FAILED: The job execution failed. ● NEW: The job was not executed.

Table 4-117 ConfigValues

Parameter	Mandatory	Type	Description
configs	Yes	Array of configs objects	The data structures of source link parameters, destination link parameters, and job parameters are the same. However, the inputs parameter varies. For details, see the descriptions of configs parameters.
extended-configs	No	extended-configs object	Extended configuration. For details, see the descriptions of extended-configs parameters. The extended configuration is not open to external systems. You do not need to set it.

Table 4-118 configs

Parameter	Mandatory	Type	Description
inputs	Yes	Array of Input objects	Input parameter list. Each element in the list is in <i>name,value</i> format. For details, see the descriptions of inputs parameters. In the from-config-values data structure, the value of this parameter varies with the source link type. For details, see section "Source Job Parameters" in the <i>Cloud Data Migration User Guide</i> . In the to-config-values data structure, the value of this parameter varies with the destination link type. For details, see section "Destination Job Parameters" in the <i>Cloud Data Migration User Guide</i> . For details about the inputs parameter in the driver-config-values data structure, see the job parameter descriptions.

Parameter	Mandatory	Type	Description
name	Yes	String	Configuration name. The value is fromJobConfig for a source job, toJobConfig for a destination job, and linkConfig for a link.
id	No	Integer	Configuration ID, which is generated by the system. You do not need to set this parameter.
type	No	String	Configuration type, which is generated by the system. You do not need to set this parameter. The value can be LINK (for link management APIs) or JOB (for job management APIs).

Table 4-119 Input

Parameter	Mandatory	Type	Description
name	Yes	String	<p>Parameter name.</p> <ul style="list-style-type: none"> For link management APIs, parameter names start with linkConfig. The parameters vary depending on the link type. For details, see the parameter descriptions of the corresponding link in Link Parameters. For job management APIs, source link parameter names start with fromJobConfig. For details, see the source job parameters in Source Job Parameters. Destination link parameter names start with toJobConfig. For details, see Destination Job Parameters. For details about job parameters, see the task parameter descriptions in Job Parameters.

Parameter	Mandatory	Type	Description
value	Yes	Object	Parameter value, which must be a string.
type	No	String	Value type, such as STRING and INTEGER . The value is set by the system.

Table 4-120 extended-configs

Parameter	Mandatory	Type	Description
name	No	String	Extended configuration name. This parameter is unavailable for external systems and does not need to be set.
value	No	String	Extended configuration value. This parameter is unavailable for external systems and does not need to be set.

Response Parameters

Status code: 200

Table 4-121 Response body parameters

Parameter	Type	Description
validation-result	Array of JobValidationResult objects	Validation result. - If a job fails to be modified, the failure cause is returned. - If a job is successfully modified, an empty list is returned.

Table 4-122 JobValidationResult

Parameter	Type	Description
message	String	Error description
status	String	Error level, for example, ERROR or WARNING

Status code: 400

Table 4-123 Response body parameters

Parameter	Type	Description
code	String	Return code
errCode	String	Error code
message	String	Error message
externalMessage	String	Additional information

Example Requests

Modifying a data migration job whose name is **es_css**, source link is an Elasticsearch link, and destination link is a DIS link

PUT /v1.1/1551c7f6c808414d8e9f3c514a170f2e/cluster/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/job/es_css

```
{
  "jobs" : [ {
    "job_type" : "NORMAL_JOB",
    "from-connector-name" : "elasticsearch-connector",
    "to-config-values" : {
      "configs" : [ {
        "inputs" : [ {
          "name" : "toJobConfig.streamName",
          "value" : "dis-lkGm"
        } ],
        "name" : "toJobConfig.separator",
        "value" : "|"
      }, {
        "name" : "toJobConfig.columnList",
        "value" : "1&2&3"
      } ],
      "name" : "toJobConfig"
    } ],
    "to-link-name" : "dis",
    "driver-config-values" : {
      "configs" : [ {
        "inputs" : [ {
          "name" : "throttlingConfig.numExtractors",
          "value" : "1"
        } ],
        "name" : "throttlingConfig.submitToCluster",
        "value" : "false"
      }, {
        "name" : "throttlingConfig.numLoaders",
        "value" : "1"
      }, {
        "name" : "throttlingConfig.recordDirtyData",
        "value" : "false"
      } ],
      "name" : "throttlingConfig"
    }, {
      "inputs" : [ ],
      "name" : "jarConfig"
    }, {
      "inputs" : [ {
        "name" : "schedulerConfig.isSchedulerJob",
        "value" : "false"
      } ]
    }
  } ]
}
```

```
    }, {
      "name": "schedulerConfig.disposableType",
      "value": "NONE"
    } ],
    "name": "schedulerConfig"
  }, {
    "inputs": [ ],
    "name": "transformConfig"
  }, {
    "inputs": [ {
      "name": "retryJobConfig.retryJobType",
      "value": "NONE"
    } ],
    "name": "retryJobConfig"
  } ]
},
"from-config-values" : {
  "configs": [ {
    "inputs": [ {
      "name": "fromJobConfig.index",
      "value": "52est"
    } ],
    "name": "fromJobConfig.type",
    "value": "est_array"
  }, {
    "name": "fromJobConfig.columnList",
    "value": "array_f1_int:long&array_f2_text:string&array_f3_object:nested"
  }, {
    "name": "fromJobConfig.splitNestedField",
    "value": "false"
  } ],
  "name": "fromJobConfig"
} ]
},
"to-connector-name" : "dis-connector",
"name" : "es_css",
"from-link-name" : "css"
} ]
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "validation-result" : [ { }, { }, { } ]
}
```

Status code: 400

Error code

```
{
  "code" : "Cdm.0095",
  "errCode" : "Cdm.00095",
  "message" : "A job with the name obs-obs does not exist.",
  "externalMessage" : "A job with the name obs-obs does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Modifying a data migration job whose name is **es_css**, source link is an Elasticsearch link, and destination link is a DIS link

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class UpdateJobSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();

        UpdateJobRequest request = new UpdateJobRequest();
        request.withClusterId("{cluster_id}");
        request.withJobName("{job_name}");
        CdmUpdateJobJsonReq body = new CdmUpdateJobJsonReq();
        List<Input> listConfigsInputs = new ArrayList<>();
        listConfigsInputs.add(
            new Input()
                .withName("fromJobConfig.index")
                .withValue("52est")
        );
        listConfigsInputs.add(
            new Input()
                .withName("fromJobConfig.type")
                .withValue("est_array")
        );
        listConfigsInputs.add(
            new Input()
                .withName("fromJobConfig.columnList")
                .withValue("array_f1_int:long&array_f2_text:string&array_f3_object:nested")
        );
        listConfigsInputs.add(
            new Input()
                .withName("fromJobConfig.splitNestedField")
                .withValue("false")
        );
        List<Configs> listFromConfigValuesConfigs = new ArrayList<>();
        listFromConfigValuesConfigs.add(
            new Configs()
                .withInputs(listConfigsInputs)
        );
    }
}
```

```
        .withName("fromJobConfig")
    );
    ConfigValues fromconfigvaluesJobs = new ConfigValues();
    fromconfigvaluesJobs.withConfigs(listFromConfigValuesConfigs);
    List<Input> listConfigsInputs1 = new ArrayList<>();
    listConfigsInputs1.add(
        new Input()
            .withName("retryJobConfig.retryJobType")
            .withValue("NONE")
    );
    List<Input> listConfigsInputs2 = new ArrayList<>();
    listConfigsInputs2.add(
        new Input()
            .withName("schedulerConfig.isSchedulerJob")
            .withValue("false")
    );
    listConfigsInputs2.add(
        new Input()
            .withName("schedulerConfig.disposableType")
            .withValue("NONE")
    );
    List<Input> listConfigsInputs3 = new ArrayList<>();
    listConfigsInputs3.add(
        new Input()
            .withName("throttlingConfig.numExtractors")
            .withValue("1")
    );
    listConfigsInputs3.add(
        new Input()
            .withName("throttlingConfig.submitToCluster")
            .withValue("false")
    );
    listConfigsInputs3.add(
        new Input()
            .withName("throttlingConfig.numLoaders")
            .withValue("1")
    );
    listConfigsInputs3.add(
        new Input()
            .withName("throttlingConfig.recordDirtyData")
            .withValue("false")
    );
    List<Configs> listDriverConfigValuesConfigs = new ArrayList<>();
    listDriverConfigValuesConfigs.add(
        new Configs()
            .withInputs(listConfigsInputs1)
            .withName("retryJobConfig")
    );
    ConfigValues driverconfigvaluesJobs = new ConfigValues();
    driverconfigvaluesJobs.withConfigs(listDriverConfigValuesConfigs);
    List<Input> listConfigsInputs4 = new ArrayList<>();
    listConfigsInputs4.add(
        new Input()
            .withName("toJobConfig.streamName")
            .withValue("dis-lkGm")
    );
    listConfigsInputs4.add(
        new Input()
            .withName("toJobConfig.separator")
            .withValue("|")
    );
    listConfigsInputs4.add(
        new Input()
            .withName("toJobConfig.columnList")
            .withValue("1&2&3")
    );
    List<Configs> listToConfigValuesConfigs = new ArrayList<>();
    listToConfigValuesConfigs.add(
        new Configs()
```



```
        .withInputs(listConfigsInputs4)
        .withName("toJobConfig")
    );
    ConfigValues toconfigvaluesJobs = new ConfigValues();
    toconfigvaluesJobs.withConfigs(listToConfigValuesConfigs);
    List<Job> listbodyJobs = new ArrayList<>();
    listbodyJobs.add(
        new Job()
            .withJobType(Job.JobTypeEnum.fromValue("NORMAL_JOB"))
            .withFromConnectorName("elasticsearch-connector")
            .withToConfigValues(toconfigvaluesJobs)
            .withToLinkName("dis")
            .withDriverConfigValues(driverconfigvaluesJobs)
            .withFromConfigValues(fromconfigvaluesJobs)
            .withToConnectorName("dis-connector")
            .withName("es_css")
            .withFromLinkName("css")
    );
    body.withJobs(listbodyJobs);
    request.withBody(body);
    try {
        UpdateJobResponse response = client.updateJob(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

Modifying a data migration job whose name is **es_css**, source link is an Elasticsearch link, and destination link is a DIS link

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateJobRequest()
```

```
request.cluster_id = "{cluster_id}"
request.job_name = "{job_name}"
listInputsConfigs = [
  Input(
    name="fromJobConfig.index",
    value="52est"
  ),
  Input(
    name="fromJobConfig.type",
    value="est_array"
  ),
  Input(
    name="fromJobConfig.columnList",
    value="array_f1_int:long&array_f2_text:string&array_f3_object:nested"
  ),
  Input(
    name="fromJobConfig.splitNestedField",
    value="false"
  )
]
listConfigsFromconfigvalues = [
  Configs(
    inputs=listInputsConfigs,
    name="fromJobConfig"
  )
]
fromconfigvaluesJobs = ConfigValues(
  configs=listConfigsFromconfigvalues
)
listInputsConfigs1 = [
  Input(
    name="retryJobConfig.retryJobType",
    value="NONE"
  )
]
listInputsConfigs2 = [
  Input(
    name="schedulerConfig.isSchedulerJob",
    value="false"
  ),
  Input(
    name="schedulerConfig.disposableType",
    value="NONE"
  )
]
listInputsConfigs3 = [
  Input(
    name="throttlingConfig.numExtractors",
    value="1"
  ),
  Input(
    name="throttlingConfig.submitToCluster",
    value="false"
  ),
  Input(
    name="throttlingConfig.numLoaders",
    value="1"
  ),
  Input(
    name="throttlingConfig.recordDirtyData",
    value="false"
  )
]
listConfigsDriverconfigvalues = [
  Configs(
    inputs=listInputsConfigs1,
    name="retryJobConfig"
  )
]
```

```
driverconfigvaluesJobs = ConfigValues(
    configs=listConfigsDriverconfigvalues
)
listInputsConfigs4 = [
    Input(
        name="toJobConfig.streamName",
        value="dis-lkGm"
    ),
    Input(
        name="toJobConfig.separator",
        value="|"
    ),
    Input(
        name="toJobConfig.columnList",
        value="1&2&3"
    )
]
listConfigsToconfigvalues = [
    Configs(
        inputs=listInputsConfigs4,
        name="toJobConfig"
    )
]
toconfigvaluesJobs = ConfigValues(
    configs=listConfigsToconfigvalues
)
listJobsbody = [
    Job(
        job_type="NORMAL_JOB",
        from_connector_name="elasticsearch-connector",
        to_config_values=toconfigvaluesJobs,
        to_link_name="dis",
        driver_config_values=driverconfigvaluesJobs,
        from_config_values=fromconfigvaluesJobs,
        to_connector_name="dis-connector",
        name="es_css",
        from_link_name="css"
    )
]
request.body = CdmUpdateJobJsonReq(
    jobs=listJobsbody
)
response = client.update_job(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Modifying a data migration job whose name is **es_css**, source link is an Elasticsearch link, and destination link is a DIS link

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
```

```
// In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := cdm.NewCdmClient(
    cdm.CdmClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.UpdateJobRequest{}
request.ClusterId = "{cluster_id}"
request.JobName = "{job_name}"
valueInputs:= "52est"
var valueInputsInterface interface{} = valueInputs
valueInputs1:= "est_array"
var valueInputsInterface1 interface{} = valueInputs1
valueInputs2:= "array_f1_int:long&array_f2_text:string&array_f3_object:nested"
var valueInputsInterface2 interface{} = valueInputs2
valueInputs3:= "false"
var valueInputsInterface3 interface{} = valueInputs3
var listInputsConfigs = []model.Input{
    {
        Name: "fromJobConfig.index",
        Value: &valueInputsInterface,
    },
    {
        Name: "fromJobConfig.type",
        Value: &valueInputsInterface1,
    },
    {
        Name: "fromJobConfig.columnList",
        Value: &valueInputsInterface2,
    },
    {
        Name: "fromJobConfig.splitNestedField",
        Value: &valueInputsInterface3,
    },
}
var listConfigsFromConfigValues = []model.Configs{
    {
        Inputs: listInputsConfigs,
        Name: "fromJobConfig",
    },
}
fromconfigvaluesJobs := &model.ConfigValues{
    Configs: listConfigsFromConfigValues,
}
valueInputs4:= "NONE"
var valueInputsInterface4 interface{} = valueInputs4
var listInputsConfigs1 = []model.Input{
    {
        Name: "retryJobConfig.retryJobType",
        Value: &valueInputsInterface4,
    },
}
valueInputs5:= "false"
var valueInputsInterface5 interface{} = valueInputs5
valueInputs6:= "NONE"
var valueInputsInterface6 interface{} = valueInputs6
var listInputsConfigs2 = []model.Input{
```

```
{
  Name: "schedulerConfig.isSchedulerJob",
  Value: &valueInputsInterface5,
},
{
  Name: "schedulerConfig.disposableType",
  Value: &valueInputsInterface6,
},
}
valueInputs7:= "1"
var valueInputsInterface7 interface{} = valueInputs7
valueInputs8:= "false"
var valueInputsInterface8 interface{} = valueInputs8
valueInputs9:= "1"
var valueInputsInterface9 interface{} = valueInputs9
valueInputs10:= "false"
var valueInputsInterface10 interface{} = valueInputs10
var listInputsConfigs3 = []model.Input{
  {
    Name: "throttlingConfig.numExtractors",
    Value: &valueInputsInterface7,
  },
  {
    Name: "throttlingConfig.submitToCluster",
    Value: &valueInputsInterface8,
  },
  {
    Name: "throttlingConfig.numLoaders",
    Value: &valueInputsInterface9,
  },
  {
    Name: "throttlingConfig.recordDirtyData",
    Value: &valueInputsInterface10,
  },
}
var listConfigsDriverConfigValues = []model.Configs{
  {
    Inputs: listInputsConfigs1,
    Name: "retryJobConfig",
  },
}
driverconfigvaluesJobs := &model.ConfigValues{
  Configs: listConfigsDriverConfigValues,
}
valueInputs11:= "dis-lkGm"
var valueInputsInterface11 interface{} = valueInputs11
valueInputs12:= "|"
var valueInputsInterface12 interface{} = valueInputs12
valueInputs13:= "1&2&3"
var valueInputsInterface13 interface{} = valueInputs13
var listInputsConfigs4 = []model.Input{
  {
    Name: "toJobConfig.streamName",
    Value: &valueInputsInterface11,
  },
  {
    Name: "toJobConfig.separator",
    Value: &valueInputsInterface12,
  },
  {
    Name: "toJobConfig.columnList",
    Value: &valueInputsInterface13,
  },
}
var listConfigsToConfigValues = []model.Configs{
  {
    Inputs: listInputsConfigs4,
    Name: "toJobConfig",
  },
},
```

```
}
toconfigvaluesJobs := &model.ConfigValues{
    Configs: listConfigsToConfigValues,
}
var listJobsbody = []model.Job{
    {
        JobType: model.GetJobJobTypeEnum().NORMAL_JOB,
        FromConnectorName: "elasticsearch-connector",
        ToConfigValues: toconfigvaluesJobs,
        ToLinkName: "dis",
        DriverConfigValues: driverconfigvaluesJobs,
        FromConfigValues: fromconfigvaluesJobs,
        ToConnectorName: "dis-connector",
        Name: "es_css",
        FromLinkName: "css",
    },
}
request.Body = &model.CdmUpdateJobJsonReq{
    Jobs: listJobsbody,
}
response, err := client.UpdateJob(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Error code

Error Codes

See [Error Codes](#).

4.2.4 Creating and Executing a Job in a Random Cluster

Function

This API is used to create and execute a job in a random cluster.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1.1/{project_id}/clusters/job

Table 4-124 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Request Parameters

Table 4-125 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).
X-Language	Yes	String	Request language

Table 4-126 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of Job objects	Job list. For details, see the descriptions of jobs parameters.
clusters	Yes	Array of strings	IDs of CDM clusters. The system selects a random cluster in running state from the specified clusters and creates and executes a migration job in the cluster.

Table 4-127 Job

Parameter	Mandatory	Type	Description
job_type	Yes	String	<p>Job type</p> <ul style="list-style-type: none"> ● NORMAL_JOB: table/file migration ● BATCH_JOB: entire DB migration ● SCENARIO_JOB: scenario migration
from-connector-name	Yes	String	<p>Source link type. The corresponding link parameters are as follows:</p> <ul style="list-style-type: none"> ● generic-jdbc-connector: link to relational database ● obs-connector: link to OBS ● hdfs-connector: link to HDFS ● hbase-connector: link to HBase and link to CloudTable ● hive-connector: link to Hive ● ftp-connector/sftp-connector: link to an FTP or SFTP server ● mongodb-connector: link to MongoDB ● redis-connector: link to Redis/DCS ● kafka-connector: link to Kafka ● dis-connector: link to DIS ● elasticsearch-connector: link to Elasticsearch/Cloud Search Service (CSS) ● [dli-connector]: link to DLI (tag:nohcs) ● http-connector: link to HTTP/HTTPS servers (No link parameters are required.) ● dms-kafka-connector: link to DMS Kafka

Parameter	Mandatory	Type	Description
to-config-values	Yes	ConfigValues object	Destination link parameters, which vary depending on the destination. For details, see Destination Job Parameters .
to-link-name	Yes	String	Name of the destination link, that is, the name of the link created through the API used to create a link
driver-config-values	Yes	ConfigValues object	Job parameters, such as Retry upon Failure and Concurrent Extractors . For details, see Job Parameter Description .
from-config-values	Yes	ConfigValues object	Source link parameters, which vary depending on the source. For details, see Source Job Parameters .

Parameter	Mandatory	Type	Description
to-connector-name	Yes	String	<p>Destination link type. The corresponding link parameters are as follows:</p> <ul style="list-style-type: none"> • generic-jdbc-connector: link to relational database • obs-connector: link to OBS • hdfs-connector: link to HDFS • hbase-connector: link to HBase and link to CloudTable • hive-connector: link to Hive • ftp-connector/sftp-connector: link to an FTP or SFTP server • mongodb-connector: link to MongoDB • redis-connector: link to Redis/DCS • kafka-connector: link to Kafka • dis-connector: link to DIS • elasticsearch-connector: link to Elasticsearch/Cloud Search Service (CSS) • [dli-connector]: link to DLI (tag:nohcs) • http-connector: link to HTTP/HTTPS servers (No link parameters are required.) • dms-kafka-connector: link to DMS Kafka
name	Yes	String	Job name, which contains 1 to 240 characters
from-link-name	Yes	String	Name of the source link, that is, the name of the link created through the API used to create a link
creation-user	No	String	User who created the job. The value is generated by the system.

Parameter	Mandatory	Type	Description
creation-date	No	Long	Time when the job was created, accurate to millisecond. The value is generated by the system.
update-date	No	Long	Time when the job was last updated, accurate to millisecond. The value is generated by the system.
is_incre_job	No	Boolean	Whether the job is an incremental job. This parameter has been discarded.
flag	No	Integer	Whether the job is a scheduled job. If yes, the value is 1 . Otherwise, the value is 0 . The value is generated by the system based on the scheduled task configuration.
files_read	No	Integer	Number of read files. The value is generated by the system.
update-user	No	String	User who last updated the job. The value is generated by the system.
external_id	No	String	ID of the job to be executed. For a local job, the value is in the format of job_local1202051771_0002 . For a DLI job, the value is the DLI job ID, for example, ***12345*** . The value is generated by the system and does not need to be set.
type	No	String	Job type. The value of this parameter is the same as that of job_type . The options are as follows: <ul style="list-style-type: none">● NORMAL_JOB: table/file migration job● BATCH_JOB: entire DB migration job● SCENARIO_JOB: scenario migration job

Parameter	Mandatory	Type	Description
execute_start_date	No	Long	Time when the last task was started, accurate to millisecond. The value is generated by the system.
delete_rows	No	Integer	Number of rows deleted by an incremental job. This parameter is deprecated.
enabled	No	Boolean	Whether the link is enabled. The value is generated by the system.
bytes_written	No	Long	Number of bytes written by the job. The value is generated by the system.
id	No	Integer	Job ID, which is generated by the system
is_use_sql	No	Boolean	Whether to use SQL statements. The value is generated by the system based on whether SQL statements are used for source data extraction. You do not need to set this parameter.
update_rows	No	Integer	Number of updated rows in an incremental job. This parameter is deprecated.
group_name	No	String	Group name
bytes_read	No	Long	Number of bytes read by the job. The value is generated by the system.
execute_update_date	No	Long	Time when the last task was updated, accurate to millisecond. The value is generated by the system.
write_rows	No	Integer	Number of rows written by an incremental job. This parameter is deprecated.
rows_written	No	Integer	Number of rows written by the job. The value is generated by the system.
rows_read	No	Long	Number of rows read by the job. The value is generated by the system.

Parameter	Mandatory	Type	Description
files_written	No	Integer	Number of written files. The value is generated by the system.
is_incrementing	No	Boolean	Whether the job is an incremental job. Similar to parameter is_incre_job , this parameter is deprecated.
execute_create_date	No	Long	Time when the last task was created, accurate to millisecond. The value is generated by the system.
status	No	String	Job execution status <ul style="list-style-type: none"> • BOOTING: The job is starting. • RUNNING: The job is running. • SUCCEEDED: The job was successfully executed. • FAILED: The job execution failed. • NEW: The job was not executed.

Table 4-128 ConfigValues

Parameter	Mandatory	Type	Description
configs	Yes	Array of configs objects	The data structures of source link parameters, destination link parameters, and job parameters are the same. However, the inputs parameter varies. For details, see the descriptions of configs parameters.
extended-configs	No	extended-configs object	Extended configuration. For details, see the descriptions of extended-configs parameters. The extended configuration is not open to external systems. You do not need to set it.

Table 4-129 configs

Parameter	Mandatory	Type	Description
inputs	Yes	Array of Input objects	Input parameter list. Each element in the list is in <i>name,value</i> format. For details, see the descriptions of inputs parameters. In the from-config-values data structure, the value of this parameter varies with the source link type. For details, see section "Source Job Parameters" in the <i>Cloud Data Migration User Guide</i> . In the to-config-values data structure, the value of this parameter varies with the destination link type. For details, see section "Destination Job Parameters" in the <i>Cloud Data Migration User Guide</i> . For details about the inputs parameter in the driver-config-values data structure, see the job parameter descriptions.
name	Yes	String	Configuration name. The value is fromJobConfig for a source job, toJobConfig for a destination job, and linkConfig for a link.
id	No	Integer	Configuration ID, which is generated by the system. You do not need to set this parameter.
type	No	String	Configuration type, which is generated by the system. You do not need to set this parameter. The value can be LINK (for link management APIs) or JOB (for job management APIs).

Table 4-130 Input

Parameter	Mandatory	Type	Description
name	Yes	String	<p>Parameter name.</p> <ul style="list-style-type: none"> For link management APIs, parameter names start with linkConfig.. The parameters vary depending on the link type. For details, see the parameter descriptions of the corresponding link in Link Parameters. For job management APIs, source link parameter names start with fromJobConfig.. For details, see the source job parameters in Source Job Parameters. Destination link parameter names start with toJobConfig.. For details, see Destination Job Parameters. For details about job parameters, see the task parameter descriptions in Job Parameters.
value	Yes	Object	Parameter value, which must be a string.
type	No	String	Value type, such as STRING and INTEGER . The value is set by the system.

Table 4-131 extended-configs

Parameter	Mandatory	Type	Description
name	No	String	Extended configuration name. This parameter is unavailable for external systems and does not need to be set.
value	No	String	Extended configuration value. This parameter is unavailable for external systems and does not need to be set.

Response Parameters

Status code: 200

Table 4-132 Response body parameters

Parameter	Type	Description
submissions	Array of StartJobSubmission objects	Job running information. For details, see the descriptions of submission parameters.

Table 4-133 StartJobSubmission

Parameter	Type	Description
isIncrementing	Boolean	Whether the job migrates incremental data
delete_rows	Integer	Number of deleted rows
update_rows	Integer	Number of updated rows
write_rows	Integer	Number of written rows
submission-id	Integer	Job submission ID
job-name	String	Job name
creation-user	String	User who started the job
creation-date	Long	Job creation time, accurate to millisecond
execute-date	Long	Execution time
progress	Float	Job progress. If a job fails, the value is -1 . Otherwise, the value ranges from 0 to 100.
status	String	Job status <ul style="list-style-type: none"> ● BOOTING: The job is starting. ● FAILURE_ON_SUBMIT: The job failed to be submitted. ● RUNNING: The job is running. ● SUCCEEDED: The job was executed successfully. ● FAILED: The job failed. ● UNKNOWN: The job status is unknown. ● NEVER_EXECUTED: The job was not executed.

Parameter	Type	Description
isStopingIncrement	String	Whether to stop incremental data migration
is-execute-auto	Boolean	Whether to execute the job as scheduled
last-update-date	Long	Time when the job was last updated
last-udpate-user	String	User who last updated the job status
isDeleteJob	Boolean	Whether to delete the job after it is executed

Example Requests

Randomly selecting a CDM cluster and creating a job named **es_css** to migrate tables from Elasticsearch to DIS

```
POST /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/job
```

```
{
  "jobs" : [ {
    "job_type" : "NORMAL_JOB",
    "from-connector-name" : "elasticsearch-connector",
    "to-config-values" : {
      "configs" : [ {
        "inputs" : [ {
          "name" : "toJobConfig.streamName",
          "value" : "dis-lkGm"
        } ],
        "name" : "toJobConfig.separator",
        "value" : "|"
      }, {
        "name" : "toJobConfig.columnList",
        "value" : "1&2&3"
      } ],
      "name" : "toJobConfig"
    }
  } ],
  "to-link-name" : "dis",
  "driver-config-values" : {
    "configs" : [ {
      "inputs" : [ {
        "name" : "throttlingConfig.numExtractors",
        "value" : "1"
      } ],
      "name" : "throttlingConfig.submitToCluster",
      "value" : "false"
    }, {
      "name" : "throttlingConfig.numLoaders",
      "value" : "1"
    }, {
      "name" : "throttlingConfig.recordDirtyData",
      "value" : "false"
    } ],
    "name" : "throttlingConfig"
  }, {
    "inputs" : [ ],
    "name" : "jarConfig"
  }, {
  }
```

```
"inputs" : [ {
  "name" : "schedulerConfig.isSchedulerJob",
  "value" : "false"
}, {
  "name" : "schedulerConfig.disposableType",
  "value" : "NONE"
} ],
"name" : "schedulerConfig"
}, {
  "inputs" : [ ],
  "name" : "transformConfig"
}, {
  "inputs" : [ {
    "name" : "retryJobConfig.retryJobType",
    "value" : "NONE"
  } ],
  "name" : "retryJobConfig"
} ]
},
"from-config-values" : {
  "configs" : [ {
    "inputs" : [ {
      "name" : "fromJobConfig.index",
      "value" : "52est"
    } ],
    "name" : "fromJobConfig.type",
    "value" : "est_array"
  }, {
    "name" : "fromJobConfig.columnList",
    "value" : "array_f1_int:long&array_f2_text:string&array_f3_object:nested"
  }, {
    "name" : "fromJobConfig.splitNestedField",
    "value" : "false"
  } ],
  "name" : "fromJobConfig"
} ]
},
"to-connector-name" : "dis-connector",
"name" : "es_css",
"from-link-name" : "css"
} ],
"clusters" : [ "b0791496-e111-4e75-b7ca-9277aeab9297", "c2db1191-eb6c-464a-a0d3-b434e6c6df26",
"c2db1191-eb6c-464a-a0d3-b434e6c6df26" ]
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "submissions" : [ {
    "isIncrementing" : false,
    "job-name" : "obs2obs-03",
    "submission-id" : 13,
    "isStopingIncrement" : "",
    "last-update-date" : 1635909057030,
    "is-execute-auto" : false,
    "delete_rows" : 0,
    "write_rows" : 0,
    "isDeleteJob" : false,
    "creation-user" : "cdmUser",
    "progress" : 0,
    "creation-date" : 1635909057030,
    "update_rows" : 0,
    "status" : "PENDING",
    "execute-date" : 1635909057030
  } ]
}
```

```
    }  
  }  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Randomly selecting a CDM cluster and creating a job named **es_css** to migrate tables from Elasticsearch to DIS

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;  
import com.huaweicloud.sdk.cdm.v1.*;  
import com.huaweicloud.sdk.cdm.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class CreateAndStartRandomClusterJobSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        CdmClient client = CdmClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))  
            .build();  
        CreateAndStartRandomClusterJobRequest request = new CreateAndStartRandomClusterJobRequest();  
        CdmRandomCreateAndStartJobJsonReq body = new CdmRandomCreateAndStartJobJsonReq();  
        List<String> listbodyClusters = new ArrayList<>();  
        listbodyClusters.add("b0791496-e111-4e75-b7ca-9277aeab9297");  
        listbodyClusters.add("c2db1191-eb6c-464a-a0d3-b434e6c6df26");  
        listbodyClusters.add("c2db1191-eb6c-464a-a0d3-b434e6c6df26");  
        List<Input> listConfigsInputs = new ArrayList<>();  
        listConfigsInputs.add(  
            new Input()  
                .withName("fromJobConfig.index")  
                .withValue("52est")  
        );  
        listConfigsInputs.add(  
            new Input()  
                .withName("fromJobConfig.type")  
                .withValue("est_array")  
        );  
        listConfigsInputs.add(  
            new Input()  
                .withName("fromJobConfig.columnList")  
        );  
    }  
}
```

```
        .withValue("array_f1_int:long&array_f2_text:string&array_f3_object:nested")
    );
    listConfigsInputs.add(
        new Input()
            .withName("fromJobConfig.splitNestedField")
            .withValue("false")
    );
    List<Configs> listFromConfigValuesConfigs = new ArrayList<>();
    listFromConfigValuesConfigs.add(
        new Configs()
            .withInputs(listConfigsInputs)
            .withName("fromJobConfig")
    );
    ConfigValues fromconfigvaluesJobs = new ConfigValues();
    fromconfigvaluesJobs.withConfigs(listFromConfigValuesConfigs);
    List<Input> listConfigsInputs1 = new ArrayList<>();
    listConfigsInputs1.add(
        new Input()
            .withName("retryJobConfig.retryJobType")
            .withValue("NONE")
    );
    List<Input> listConfigsInputs2 = new ArrayList<>();
    listConfigsInputs2.add(
        new Input()
            .withName("schedulerConfig.isSchedulerJob")
            .withValue("false")
    );
    listConfigsInputs2.add(
        new Input()
            .withName("schedulerConfig.disposableType")
            .withValue("NONE")
    );
    List<Input> listConfigsInputs3 = new ArrayList<>();
    listConfigsInputs3.add(
        new Input()
            .withName("throttlingConfig.numExtractors")
            .withValue("1")
    );
    listConfigsInputs3.add(
        new Input()
            .withName("throttlingConfig.submitToCluster")
            .withValue("false")
    );
    listConfigsInputs3.add(
        new Input()
            .withName("throttlingConfig.numLoaders")
            .withValue("1")
    );
    listConfigsInputs3.add(
        new Input()
            .withName("throttlingConfig.recordDirtyData")
            .withValue("false")
    );
    List<Configs> listDriverConfigValuesConfigs = new ArrayList<>();
    listDriverConfigValuesConfigs.add(
        new Configs()
            .withInputs(listConfigsInputs1)
            .withName("retryJobConfig")
    );
    ConfigValues driverconfigvaluesJobs = new ConfigValues();
    driverconfigvaluesJobs.withConfigs(listDriverConfigValuesConfigs);
    List<Input> listConfigsInputs4 = new ArrayList<>();
    listConfigsInputs4.add(
        new Input()
            .withName("toJobConfig.streamName")
            .withValue("dis-lkGm")
    );
    listConfigsInputs4.add(
        new Input()
```

```
        .withName("toJobConfig.separator")
        .withValue("|")
    );
    listConfigsInputs4.add(
        new Input()
            .withName("toJobConfig.columnList")
            .withValue("1&2&3")
    );
    List<Configs> listToConfigValuesConfigs = new ArrayList<>();
    listToConfigValuesConfigs.add(
        new Configs()
            .withInputs(listConfigsInputs4)
            .withName("toJobConfig")
    );
    ConfigValues toconfigvaluesJobs = new ConfigValues();
    toconfigvaluesJobs.withConfigs(listToConfigValuesConfigs);
    List<Job> listbodyJobs = new ArrayList<>();
    listbodyJobs.add(
        new Job()
            .withJobType(Job.JobTypeEnum.fromValue("NORMAL_JOB"))
            .withFromConnectorName("elasticsearch-connector")
            .withToConfigValues(toconfigvaluesJobs)
            .withToLinkName("dis")
            .withDriverConfigValues(driverconfigvaluesJobs)
            .withFromConfigValues(fromconfigvaluesJobs)
            .withToConnectorName("dis-connector")
            .withName("es_css")
            .withFromLinkName("css")
    );
    body.withClusters(listbodyClusters);
    body.withJobs(listbodyJobs);
    request.withBody(body);
    try {
        CreateAndStartRandomClusterJobResponse response =
client.createAndStartRandomClusterJob(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
    }
}
```

Python

Randomly selecting a CDM cluster and creating a job named **es_css** to migrate tables from Elasticsearch to DIS

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = CdmClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(CdmRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = CreateAndStartRandomClusterJobRequest()
    listClustersbody = [
        "b0791496-e111-4e75-b7ca-9277aeab9297",
        "c2db1191-eb6c-464a-a0d3-b434e6c6df26",
        "c2db1191-eb6c-464a-a0d3-b434e6c6df26"
    ]
    listInputsConfigs = [
        Input(
            name="fromJobConfig.index",
            value="52est"
        ),
        Input(
            name="fromJobConfig.type",
            value="est_array"
        ),
        Input(
            name="fromJobConfig.columnList",
            value="array_f1_int:long&array_f2_text:string&array_f3_object:nested"
        ),
        Input(
            name="fromJobConfig.splitNestedField",
            value="false"
        )
    ]
    listConfigsFromconfigvalues = [
        Configs(
            inputs=listInputsConfigs,
            name="fromJobConfig"
        )
    ]
    fromconfigvaluesJobs = ConfigValues(
        configs=listConfigsFromconfigvalues
    )
    listInputsConfigs1 = [
        Input(
            name="retryJobConfig.retryJobType",
            value="NONE"
        )
    ]
    listInputsConfigs2 = [
        Input(
            name="schedulerConfig.isSchedulerJob",
            value="false"
        ),
        Input(
            name="schedulerConfig.disposableType",
            value="NONE"
        )
    ]
    listInputsConfigs3 = [
        Input(
            name="throttlingConfig.numExtractors",
            value="1"
        ),
        Input(
            name="throttlingConfig.submitToCluster",
            value="false"
        )
    ]
```

```
    ),
    Input(
        name="throttlingConfig.numLoaders",
        value="1"
    ),
    Input(
        name="throttlingConfig.recordDirtyData",
        value="false"
    )
]
listConfigsDriverconfigvalues = [
    Configs(
        inputs=listInputsConfigs1,
        name="retryJobConfig"
    )
]
driverconfigvaluesJobs = ConfigValues(
    configs=listConfigsDriverconfigvalues
)
listInputsConfigs4 = [
    Input(
        name="toJobConfig.streamName",
        value="dis-lkGm"
    ),
    Input(
        name="toJobConfig.separator",
        value="|"
    ),
    Input(
        name="toJobConfig.columnList",
        value="1&2&3"
    )
]
listConfigsToconfigvalues = [
    Configs(
        inputs=listInputsConfigs4,
        name="toJobConfig"
    )
]
toconfigvaluesJobs = ConfigValues(
    configs=listConfigsToconfigvalues
)
listJobsbody = [
    Job(
        job_type="NORMAL_JOB",
        from_connector_name="elasticsearch-connector",
        to_config_values=toconfigvaluesJobs,
        to_link_name="dis",
        driver_config_values=driverconfigvaluesJobs,
        from_config_values=fromconfigvaluesJobs,
        to_connector_name="dis-connector",
        name="es_css",
        from_link_name="css"
    )
]
request.body = CdmRandomCreateAndStartJobJsonReq(
    clusters=listClustersbody,
    jobs=listJobsbody
)
response = client.create_and_start_random_cluster_job(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Randomly selecting a CDM cluster and creating a job named **es_css** to migrate tables from Elasticsearch to DIS

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAndStartRandomClusterJobRequest{}
    var listClustersbody = []string{
        "b0791496-e111-4e75-b7ca-9277aeab9297",
        "c2db1191-eb6c-464a-a0d3-b434e6c6df26",
        "c2db1191-eb6c-464a-a0d3-b434e6c6df26",
    }
    valueInputs := "52est"
    var valueInputsInterface interface{} = valueInputs
    valueInputs1 := "est_array"
    var valueInputsInterface1 interface{} = valueInputs1
    valueInputs2 := "array_f1_int:long&array_f2_text:string&array_f3_object:nested"
    var valueInputsInterface2 interface{} = valueInputs2
    valueInputs3 := "false"
    var valueInputsInterface3 interface{} = valueInputs3
    var listInputsConfigs = []model.Input{
        {
            Name: "fromJobConfig.index",
            Value: &valueInputsInterface,
        },
        {
            Name: "fromJobConfig.type",
            Value: &valueInputsInterface1,
        },
        {
            Name: "fromJobConfig.columnList",
            Value: &valueInputsInterface2,
        },
        {
            Name: "fromJobConfig.splitNestedField",
            Value: &valueInputsInterface3,
        },
    }
}
```



```
var listConfigsFromConfigValues = []model.Configs{
    {
        Inputs: listInputsConfigs,
        Name: "fromJobConfig",
    },
}
fromconfigvaluesJobs := &model.ConfigValues{
    Configs: listConfigsFromConfigValues,
}
valueInputs4:= "NONE"
var valueInputsInterface4 interface{} = valueInputs4
var listInputsConfigs1 = []model.Input{
    {
        Name: "retryJobConfig.retryJobType",
        Value: &valueInputsInterface4,
    },
}
valueInputs5:= "false"
var valueInputsInterface5 interface{} = valueInputs5
valueInputs6:= "NONE"
var valueInputsInterface6 interface{} = valueInputs6
var listInputsConfigs2 = []model.Input{
    {
        Name: "schedulerConfig.isSchedulerJob",
        Value: &valueInputsInterface5,
    },
    {
        Name: "schedulerConfig.disposableType",
        Value: &valueInputsInterface6,
    },
}
valueInputs7:= "1"
var valueInputsInterface7 interface{} = valueInputs7
valueInputs8:= "false"
var valueInputsInterface8 interface{} = valueInputs8
valueInputs9:= "1"
var valueInputsInterface9 interface{} = valueInputs9
valueInputs10:= "false"
var valueInputsInterface10 interface{} = valueInputs10
var listInputsConfigs3 = []model.Input{
    {
        Name: "throttlingConfig.numExtractors",
        Value: &valueInputsInterface7,
    },
    {
        Name: "throttlingConfig.submitToCluster",
        Value: &valueInputsInterface8,
    },
    {
        Name: "throttlingConfig.numLoaders",
        Value: &valueInputsInterface9,
    },
    {
        Name: "throttlingConfig.recordDirtyData",
        Value: &valueInputsInterface10,
    },
}
var listConfigsDriverConfigValues = []model.Configs{
    {
        Inputs: listInputsConfigs1,
        Name: "retryJobConfig",
    },
}
driverconfigvaluesJobs := &model.ConfigValues{
    Configs: listConfigsDriverConfigValues,
}
valueInputs11:= "dis-lkGm"
var valueInputsInterface11 interface{} = valueInputs11
valueInputs12:= ""
```

```
var valueInputsInterface12 interface{} = valueInputs12
valueInputs13:= "1&2&3"
var valueInputsInterface13 interface{} = valueInputs13
var listInputsConfigs4 = []model.Input{
    {
        Name: "toJobConfig.streamName",
        Value: &valueInputsInterface11,
    },
    {
        Name: "toJobConfig.separator",
        Value: &valueInputsInterface12,
    },
    {
        Name: "toJobConfig.columnList",
        Value: &valueInputsInterface13,
    },
}
var listConfigsToConfigValues = []model.Configs{
    {
        Inputs: listInputsConfigs4,
        Name: "toJobConfig",
    },
}
toconfigvaluesJobs := &model.ConfigValues{
    Configs: listConfigsToConfigValues,
}
var listJobsbody = []model.Job{
    {
        JobType: model.GetJobJobTypeEnum().NORMAL_JOB,
        FromConnectorName: "elasticsearch-connector",
        ToConfigValues: toconfigvaluesJobs,
        ToLinkName: "dis",
        DriverConfigValues: driverconfigvaluesJobs,
        FromConfigValues: fromconfigvaluesJobs,
        ToConnectorName: "dis-connector",
        Name: "es_css",
        FromLinkName: "css",
    },
}
request.Body = &model.CdmRandomCreateAndStartJobJsonReq{
    Clusters: listClustersbody,
    Jobs: listJobsbody,
}
response, err := client.CreateAndStartRandomClusterJob(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.

Error Codes

See [Error Codes](#).

4.2.5 Stopping a Job

Function

This API is used to stop a job.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1.1/{project_id}/clusters/{cluster_id}/cdm/job/{job_name}/stop

Table 4-134 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID
job_name	Yes	String	Job name

Request Parameters

Table 4-135 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-136 Response body parameters

Parameter	Type	Description
validation-result	Array of JobValidationResult objects	Validation result. If the job fails to be stopped, the failure cause is returned. For details, see the validation-result parameter. If the job is stopped, an empty list is returned.

Table 4-137 JobValidationResult

Parameter	Type	Description
message	String	Error description
status	String	Error level, for example, ERROR or WARNING

Example Requests

```
PUT /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/job/jdbc2hive/stop
```

Example Responses

Status code: 200

Request succeeded.

```
{ }
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class StopJobSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
```

```
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

CdmClient client = CdmClient.newBuilder()
    .withCredential(auth)
    .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
    .build();

StopJobRequest request = new StopJobRequest();
request.withClusterId("{cluster_id}");
request.withJobName("{job_name}");
try {
    StopJobResponse response = client.stopJob(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = StopJobRequest()
        request.cluster_id = "{cluster_id}"
        request.job_name = "{job_name}"
        response = client.stop_job(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.StopJobRequest{}
    request.ClusterId = "{cluster_id}"
    request.JobName = "{job_name}"
    response, err := client.StopJob(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.

Error Codes

See [Error Codes](#).

4.2.6 Creating a Job in a Specified Cluster

Function

This API is used to create a job in a specified cluster.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1.1/{project_id}/clusters/{cluster_id}/cdm/job

Table 4-138 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID

Request Parameters

Table 4-139 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-140 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of Job objects	Job list. For details, see the descriptions of jobs parameters.

Table 4-141 Job

Parameter	Mandatory	Type	Description
job_type	Yes	String	<p>Job type</p> <ul style="list-style-type: none"> ● NORMAL_JOB: table/file migration ● BATCH_JOB: entire DB migration ● SCENARIO_JOB: scenario migration
from-connector-name	Yes	String	<p>Source link type. The corresponding link parameters are as follows:</p> <ul style="list-style-type: none"> ● generic-jdbc-connector: link to relational database ● obs-connector: link to OBS ● hdfs-connector: link to HDFS ● hbase-connector: link to HBase and link to CloudTable ● hive-connector: link to Hive ● ftp-connector/sftp-connector: link to an FTP or SFTP server ● mongodb-connector: link to MongoDB ● redis-connector: link to Redis/DCS ● kafka-connector: link to Kafka ● dis-connector: link to DIS ● elasticsearch-connector: link to Elasticsearch/Cloud Search Service (CSS) ● [dli-connector]: link to DLI (tag:nohcs) ● http-connector: link to HTTP/HTTPS servers (No link parameters are required.) ● dms-kafka-connector: link to DMS Kafka

Parameter	Mandatory	Type	Description
to-config-values	Yes	ConfigValues object	Destination link parameters, which vary depending on the destination. For details, see Destination Job Parameters .
to-link-name	Yes	String	Name of the destination link, that is, the name of the link created through the API used to create a link
driver-config-values	Yes	ConfigValues object	Job parameters, such as Retry upon Failure and Concurrent Extractors . For details, see Job Parameter Description .
from-config-values	Yes	ConfigValues object	Source link parameters, which vary depending on the source. For details, see Source Job Parameters .

Parameter	Mandatory	Type	Description
to-connector-name	Yes	String	<p>Destination link type. The corresponding link parameters are as follows:</p> <ul style="list-style-type: none"> • generic-jdbc-connector: link to relational database • obs-connector: link to OBS • hdfs-connector: link to HDFS • hbase-connector: link to HBase and link to CloudTable • hive-connector: link to Hive • ftp-connector/sftp-connector: link to an FTP or SFTP server • mongodb-connector: link to MongoDB • redis-connector: link to Redis/DCS • kafka-connector: link to Kafka • dis-connector: link to DIS • elasticsearch-connector: link to Elasticsearch/Cloud Search Service (CSS) • [dli-connector]: link to DLI (tag:nohcs) • http-connector: link to HTTP/HTTPS servers (No link parameters are required.) • dms-kafka-connector: link to DMS Kafka
name	Yes	String	Job name, which contains 1 to 240 characters
from-link-name	Yes	String	Name of the source link, that is, the name of the link created through the API used to create a link
creation-user	No	String	User who created the job. The value is generated by the system.

Parameter	Mandatory	Type	Description
creation-date	No	Long	Time when the job was created, accurate to millisecond. The value is generated by the system.
update-date	No	Long	Time when the job was last updated, accurate to millisecond. The value is generated by the system.
is_incre_job	No	Boolean	Whether the job is an incremental job. This parameter has been discarded.
flag	No	Integer	Whether the job is a scheduled job. If yes, the value is 1 . Otherwise, the value is 0 . The value is generated by the system based on the scheduled task configuration.
files_read	No	Integer	Number of read files. The value is generated by the system.
update-user	No	String	User who last updated the job. The value is generated by the system.
external_id	No	String	ID of the job to be executed. For a local job, the value is in the format of job_local1202051771_0002 . For a DLI job, the value is the DLI job ID, for example, ***12345*** . The value is generated by the system and does not need to be set.
type	No	String	Job type. The value of this parameter is the same as that of job_type . The options are as follows: <ul style="list-style-type: none"> ● NORMAL_JOB: table/file migration job ● BATCH_JOB: entire DB migration job ● SCENARIO_JOB: scenario migration job

Parameter	Mandatory	Type	Description
execute_start_date	No	Long	Time when the last task was started, accurate to millisecond. The value is generated by the system.
delete_rows	No	Integer	Number of rows deleted by an incremental job. This parameter is deprecated.
enabled	No	Boolean	Whether the link is enabled. The value is generated by the system.
bytes_written	No	Long	Number of bytes written by the job. The value is generated by the system.
id	No	Integer	Job ID, which is generated by the system
is_use_sql	No	Boolean	Whether to use SQL statements. The value is generated by the system based on whether SQL statements are used for source data extraction. You do not need to set this parameter.
update_rows	No	Integer	Number of updated rows in an incremental job. This parameter is deprecated.
group_name	No	String	Group name
bytes_read	No	Long	Number of bytes read by the job. The value is generated by the system.
execute_update_date	No	Long	Time when the last task was updated, accurate to millisecond. The value is generated by the system.
write_rows	No	Integer	Number of rows written by an incremental job. This parameter is deprecated.
rows_written	No	Integer	Number of rows written by the job. The value is generated by the system.
rows_read	No	Long	Number of rows read by the job. The value is generated by the system.

Parameter	Mandatory	Type	Description
files_written	No	Integer	Number of written files. The value is generated by the system.
is_incrementing	No	Boolean	Whether the job is an incremental job. Similar to parameter is_incre_job , this parameter is deprecated.
execute_create_date	No	Long	Time when the last task was created, accurate to millisecond. The value is generated by the system.
status	No	String	Job execution status <ul style="list-style-type: none"> • BOOTING: The job is starting. • RUNNING: The job is running. • SUCCEEDED: The job was successfully executed. • FAILED: The job execution failed. • NEW: The job was not executed.

Table 4-142 ConfigValues

Parameter	Mandatory	Type	Description
configs	Yes	Array of configs objects	The data structures of source link parameters, destination link parameters, and job parameters are the same. However, the inputs parameter varies. For details, see the descriptions of configs parameters.
extended-configs	No	extended-configs object	Extended configuration. For details, see the descriptions of extended-configs parameters. The extended configuration is not open to external systems. You do not need to set it.

Table 4-143 configs

Parameter	Mandatory	Type	Description
inputs	Yes	Array of Input objects	Input parameter list. Each element in the list is in <i>name,value</i> format. For details, see the descriptions of inputs parameters. In the from-config-values data structure, the value of this parameter varies with the source link type. For details, see section "Source Job Parameters" in the <i>Cloud Data Migration User Guide</i> . In the to-config-values data structure, the value of this parameter varies with the destination link type. For details, see section "Destination Job Parameters" in the <i>Cloud Data Migration User Guide</i> . For details about the inputs parameter in the driver-config-values data structure, see the job parameter descriptions.
name	Yes	String	Configuration name. The value is fromJobConfig for a source job, toJobConfig for a destination job, and linkConfig for a link.
id	No	Integer	Configuration ID, which is generated by the system. You do not need to set this parameter.
type	No	String	Configuration type, which is generated by the system. You do not need to set this parameter. The value can be LINK (for link management APIs) or JOB (for job management APIs).

Table 4-144 Input

Parameter	Mandatory	Type	Description
name	Yes	String	<p>Parameter name.</p> <ul style="list-style-type: none"> For link management APIs, parameter names start with linkConfig.. The parameters vary depending on the link type. For details, see the parameter descriptions of the corresponding link in Link Parameters. For job management APIs, source link parameter names start with fromJobConfig.. For details, see the source job parameters in Source Job Parameters. Destination link parameter names start with toJobConfig.. For details, see Destination Job Parameters. For details about job parameters, see the task parameter descriptions in Job Parameters.
value	Yes	Object	Parameter value, which must be a string.
type	No	String	Value type, such as STRING and INTEGER . The value is set by the system.

Table 4-145 extended-configs

Parameter	Mandatory	Type	Description
name	No	String	Extended configuration name. This parameter is unavailable for external systems and does not need to be set.
value	No	String	Extended configuration value. This parameter is unavailable for external systems and does not need to be set.

Response Parameters

Status code: 200

Table 4-146 Response body parameters

Parameter	Type	Description
name	String	Job name
validation-result	Array of JobValidationResult objects	Check result <ul style="list-style-type: none"> • If the modification fails, the failure cause is returned. • If the modification is successful, an empty list is returned.

Table 4-147 JobValidationResult

Parameter	Type	Description
message	String	Error description
status	String	Error level, for example, ERROR or WARNING

Status code: 400

Table 4-148 Response body parameters

Parameter	Type	Description
code	String	Return code
errCode	String	Error code
message	String	Error message
externalMessage	String	Additional information

Example Requests

Creating a data migration job whose name is **es_css**, source link is an Elasticsearch link, and destination link is a DIS link

```
POST /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/job
{
  "jobs" : [ {
    "job_type" : "NORMAL_JOB",
    "from-connector-name" : "elasticsearch-connector",
    "to-config-values" : {
```



```
"configs": [ {
  "inputs": [ {
    "name": "toJobConfig.streamName",
    "value": "dis-lkGm"
  }, {
    "name": "toJobConfig.separator",
    "value": "|"
  }, {
    "name": "toJobConfig.columnList",
    "value": "1&2&3"
  } ],
  "name": "toJobConfig"
} ],
"to-link-name": "dis",
"driver-config-values": {
  "configs": [ {
    "inputs": [ {
      "name": "throttlingConfig.numExtractors",
      "value": "1"
    }, {
      "name": "throttlingConfig.submitToCluster",
      "value": "false"
    }, {
      "name": "throttlingConfig.numLoaders",
      "value": "1"
    }, {
      "name": "throttlingConfig.recordDirtyData",
      "value": "false"
    } ],
    "name": "throttlingConfig"
  }, {
    "inputs": [ ],
    "name": "jarConfig"
  }, {
    "inputs": [ {
      "name": "schedulerConfig.isSchedulerJob",
      "value": "false"
    }, {
      "name": "schedulerConfig.disposableType",
      "value": "NONE"
    } ],
    "name": "schedulerConfig"
  }, {
    "inputs": [ ],
    "name": "transformConfig"
  }, {
    "inputs": [ {
      "name": "retryJobConfig.retryJobType",
      "value": "NONE"
    } ],
    "name": "retryJobConfig"
  } ]
},
"from-config-values": {
  "configs": [ {
    "inputs": [ {
      "name": "fromJobConfig.index",
      "value": "52est"
    }, {
      "name": "fromJobConfig.type",
      "value": "est_array"
    }, {
      "name": "fromJobConfig.columnList",
      "value": "array_f1_int:long&array_f2_text:string&array_f3_object:nested"
    }, {
      "name": "fromJobConfig.splitNestedField",
      "value": "false"
    } ],
  },
}
```

```
    "name" : "fromJobConfig"
  } ]
},
"to-connector-name" : "dis-connector",
"name" : "es_css",
"from-link-name" : "css"
} ]
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "name" : "mysql2hive"
}
```

Status code: 400

Request error.

```
{
  "code" : "Cdm.0104",
  "errCode" : "Cdm.0104",
  "message" : "Job name already exist or created by other.",
  "ternalMessage" : "Job name already exist or created by other."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Creating a data migration job whose name is **es_css**, source link is an Elasticsearch link, and destination link is a DIS link

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateJobSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
```

```
.withProjectId(projectId)
.withAk(ak)
.withSk(sk);

CdmClient client = CdmClient.newBuilder()
    .withCredential(auth)
    .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
    .build();
CreateJobRequest request = new CreateJobRequest();
request.withClusterId("{cluster_id}");
CdmCreateJobJsonReq body = new CdmCreateJobJsonReq();
List<Input> listConfigsInputs = new ArrayList<>();
listConfigsInputs.add(
    new Input()
        .withName("fromJobConfig.index")
        .withValue("52est")
);
listConfigsInputs.add(
    new Input()
        .withName("fromJobConfig.type")
        .withValue("est_array")
);
listConfigsInputs.add(
    new Input()
        .withName("fromJobConfig.columnList")
        .withValue("array_f1_int:long&array_f2_text:string&array_f3_object:nested")
);
listConfigsInputs.add(
    new Input()
        .withName("fromJobConfig.splitNestedField")
        .withValue("false")
);
List<Configs> listFromConfigValuesConfigs = new ArrayList<>();
listFromConfigValuesConfigs.add(
    new Configs()
        .withInputs(listConfigsInputs)
        .withName("fromJobConfig")
);
ConfigValues fromconfigvaluesJobs = new ConfigValues();
fromconfigvaluesJobs.withConfigs(listFromConfigValuesConfigs);
List<Input> listConfigsInputs1 = new ArrayList<>();
listConfigsInputs1.add(
    new Input()
        .withName("retryJobConfig.retryJobType")
        .withValue("NONE")
);
List<Input> listConfigsInputs2 = new ArrayList<>();
listConfigsInputs2.add(
    new Input()
        .withName("schedulerConfig.isSchedulerJob")
        .withValue("false")
);
listConfigsInputs2.add(
    new Input()
        .withName("schedulerConfig.disposableType")
        .withValue("NONE")
);
List<Input> listConfigsInputs3 = new ArrayList<>();
listConfigsInputs3.add(
    new Input()
        .withName("throttlingConfig.numExtractors")
        .withValue("1")
);
listConfigsInputs3.add(
    new Input()
        .withName("throttlingConfig.submitToCluster")
        .withValue("false")
);
listConfigsInputs3.add(
```

```
        new Input()
            .withName("throttlingConfig.numLoaders")
            .withValue("1")
    );
    listConfigsInputs3.add(
        new Input()
            .withName("throttlingConfig.recordDirtyData")
            .withValue("false")
    );
    List<Configs> listDriverConfigValuesConfigs = new ArrayList<>();
    listDriverConfigValuesConfigs.add(
        new Configs()
            .withInputs(listConfigsInputs1)
            .withName("retryJobConfig")
    );
    ConfigValues driverconfigvaluesJobs = new ConfigValues();
    driverconfigvaluesJobs.withConfigs(listDriverConfigValuesConfigs);
    List<Input> listConfigsInputs4 = new ArrayList<>();
    listConfigsInputs4.add(
        new Input()
            .withName("toJobConfig.streamName")
            .withValue("dis-lkGm")
    );
    listConfigsInputs4.add(
        new Input()
            .withName("toJobConfig.separator")
            .withValue("|")
    );
    listConfigsInputs4.add(
        new Input()
            .withName("toJobConfig.columnList")
            .withValue("1&2&3")
    );
    List<Configs> listToConfigValuesConfigs = new ArrayList<>();
    listToConfigValuesConfigs.add(
        new Configs()
            .withInputs(listConfigsInputs4)
            .withName("toJobConfig")
    );
    ConfigValues toconfigvaluesJobs = new ConfigValues();
    toconfigvaluesJobs.withConfigs(listToConfigValuesConfigs);
    List<Job> listbodyJobs = new ArrayList<>();
    listbodyJobs.add(
        new Job()
            .withJobType(Job.JobTypeEnum.fromValue("NORMAL_JOB"))
            .withFromConnectorName("elasticsearch-connector")
            .withToConfigValues(toconfigvaluesJobs)
            .withToLinkName("dis")
            .withDriverConfigValues(driverconfigvaluesJobs)
            .withFromConfigValues(fromconfigvaluesJobs)
            .withToConnectorName("dis-connector")
            .withName("es_css")
            .withFromLinkName("css")
    );
    body.withJobs(listbodyJobs);
    request.withBody(body);
    try {
        CreateJobResponse response = client.createJob(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
```

```
}  
}  
}
```

Python

Creating a data migration job whose name is **es_css**, source link is an Elasticsearch link, and destination link is a DIS link

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateJobRequest()
        request.cluster_id = "{cluster_id}"
        listInputsConfigs = [
            Input(
                name="fromJobConfig.index",
                value="52est"
            ),
            Input(
                name="fromJobConfig.type",
                value="est_array"
            ),
            Input(
                name="fromJobConfig.columnList",
                value="array_f1_int:long&array_f2_text:string&array_f3_object:nested"
            ),
            Input(
                name="fromJobConfig.splitNestedField",
                value="false"
            )
        ]
        listConfigsFromconfigvalues = [
            Configs(
                inputs=listInputsConfigs,
                name="fromJobConfig"
            )
        ]
        fromconfigvaluesJobs = ConfigValues(
            configs=listConfigsFromconfigvalues
        )
        listInputsConfigs1 = [
            Input(
                name="retryJobConfig.retryJobType",
                value="NONE"
            )
        ]
```

```
]
listInputsConfigs2 = [
  Input(
    name="schedulerConfig.isSchedulerJob",
    value="false"
  ),
  Input(
    name="schedulerConfig.disposableType",
    value="NONE"
  )
]
listInputsConfigs3 = [
  Input(
    name="throttlingConfig.numExtractors",
    value="1"
  ),
  Input(
    name="throttlingConfig.submitToCluster",
    value="false"
  ),
  Input(
    name="throttlingConfig.numLoaders",
    value="1"
  ),
  Input(
    name="throttlingConfig.recordDirtyData",
    value="false"
  )
]
listConfigsDriverconfigvalues = [
  Configs(
    inputs=listInputsConfigs1,
    name="retryJobConfig"
  )
]
driverconfigvaluesJobs = ConfigValues(
  configs=listConfigsDriverconfigvalues
)
listInputsConfigs4 = [
  Input(
    name="toJobConfig.streamName",
    value="dis-lkGm"
  ),
  Input(
    name="toJobConfig.separator",
    value="|"
  ),
  Input(
    name="toJobConfig.columnList",
    value="1&2&3"
  )
]
listConfigsToconfigvalues = [
  Configs(
    inputs=listInputsConfigs4,
    name="toJobConfig"
  )
]
toconfigvaluesJobs = ConfigValues(
  configs=listConfigsToconfigvalues
)
listJobsbody = [
  Job(
    job_type="NORMAL_JOB",
    from_connector_name="elasticsearch-connector",
    to_config_values=toconfigvaluesJobs,
    to_link_name="dis",
    driver_config_values=driverconfigvaluesJobs,
    from_config_values=fromconfigvaluesJobs,
  )
]
```

```
        to_connector_name="dis-connector",
        name="es_css",
        from_link_name="css"
    )
]
request.body = CdmCreateJobJsonReq(
    jobs=listJobsbody
)
response = client.create_job(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Creating a data migration job whose name is **es_css**, source link is an Elasticsearch link, and destination link is a DIS link

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateJobRequest{}
    request.ClusterId = "{cluster_id}"
    valueInputs := "52est"
    var valueInputsInterface interface{} = valueInputs
    valueInputs1 := "est_array"
    var valueInputsInterface1 interface{} = valueInputs1
    valueInputs2 := "array_f1_int:long&array_f2_text:string&array_f3_object:nested"
    var valueInputsInterface2 interface{} = valueInputs2
    valueInputs3 := "false"
    var valueInputsInterface3 interface{} = valueInputs3
    var listInputsConfigs = []model.Input{
        {
            Name: "fromJobConfig.index",
            Value: &valueInputsInterface,
        },
    }
}
```

```
    Name: "fromJobConfig.type",
    Value: &valueInputsInterface1,
  },
  {
    Name: "fromJobConfig.columnList",
    Value: &valueInputsInterface2,
  },
  {
    Name: "fromJobConfig.splitNestedField",
    Value: &valueInputsInterface3,
  },
}
var listConfigsFromConfigValues = []model.Configs{
  {
    Inputs: listInputsConfigs,
    Name: "fromJobConfig",
  },
}
fromconfigvaluesJobs := &model.ConfigValues{
  Configs: listConfigsFromConfigValues,
}
valueInputs4:= "NONE"
var valueInputsInterface4 interface{} = valueInputs4
var listInputsConfigs1 = []model.Input{
  {
    Name: "retryJobConfig.retryJobType",
    Value: &valueInputsInterface4,
  },
}
valueInputs5:= "false"
var valueInputsInterface5 interface{} = valueInputs5
valueInputs6:= "NONE"
var valueInputsInterface6 interface{} = valueInputs6
var listInputsConfigs2 = []model.Input{
  {
    Name: "schedulerConfig.isSchedulerJob",
    Value: &valueInputsInterface5,
  },
  {
    Name: "schedulerConfig.disposableType",
    Value: &valueInputsInterface6,
  },
}
valueInputs7:= "1"
var valueInputsInterface7 interface{} = valueInputs7
valueInputs8:= "false"
var valueInputsInterface8 interface{} = valueInputs8
valueInputs9:= "1"
var valueInputsInterface9 interface{} = valueInputs9
valueInputs10:= "false"
var valueInputsInterface10 interface{} = valueInputs10
var listInputsConfigs3 = []model.Input{
  {
    Name: "throttlingConfig.numExtractors",
    Value: &valueInputsInterface7,
  },
  {
    Name: "throttlingConfig.submitToCluster",
    Value: &valueInputsInterface8,
  },
  {
    Name: "throttlingConfig.numLoaders",
    Value: &valueInputsInterface9,
  },
  {
    Name: "throttlingConfig.recordDirtyData",
    Value: &valueInputsInterface10,
  },
}
}
```



```
var listConfigsDriverConfigValues = []model.Configs{
    {
        Inputs: listInputsConfigs1,
        Name: "retryJobConfig",
    },
}
driverconfigvaluesJobs := &model.ConfigValues{
    Configs: listConfigsDriverConfigValues,
}
valueInputs11:= "dis-lkGm"
var valueInputsInterface11 interface{} = valueInputs11
valueInputs12:= "|"
var valueInputsInterface12 interface{} = valueInputs12
valueInputs13:= "1&2&3"
var valueInputsInterface13 interface{} = valueInputs13
var listInputsConfigs4 = []model.Input{
    {
        Name: "toJobConfig.streamName",
        Value: &valueInputsInterface11,
    },
    {
        Name: "toJobConfig.separator",
        Value: &valueInputsInterface12,
    },
    {
        Name: "toJobConfig.columnList",
        Value: &valueInputsInterface13,
    },
}
var listConfigsToConfigValues = []model.Configs{
    {
        Inputs: listInputsConfigs4,
        Name: "toJobConfig",
    },
}
toconfigvaluesJobs := &model.ConfigValues{
    Configs: listConfigsToConfigValues,
}
var listJobsbody = []model.Job{
    {
        JobType: model.GetJobJobTypeEnum().NORMAL_JOB,
        FromConnectorName: "elasticsearch-connector",
        ToConfigValues: toconfigvaluesJobs,
        ToLinkName: "dis",
        DriverConfigValues: driverconfigvaluesJobs,
        FromConfigValues: fromconfigvaluesJobs,
        ToConnectorName: "dis-connector",
        Name: "es_css",
        FromLinkName: "css",
    },
}
request.Body = &model.CdmCreateJobJsonReq{
    Jobs: listJobsbody,
}
response, err := client.CreateJob(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.

Error Codes

See [Error Codes](#).

4.2.7 Starting a Job

Function

This API is used to start a job.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1.1/{project_id}/clusters/{cluster_id}/cdm/job/{job_name}/start

Table 4-149 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID
job_name	Yes	String	Job name

Request Parameters

Table 4-150 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-151 Request body parameters

Parameter	Mandatory	Type	Description
variables	No	Object	Start a job and configure variable parameters. If no variable is configured for the job, the object is empty.

Response Parameters

Status code: 200

Table 4-152 Response body parameters

Parameter	Type	Description
submissions	Array of StartJobSubmission objects	Job running information. For details, see the descriptions of submission parameters.

Table 4-153 StartJobSubmission

Parameter	Type	Description
isIncrementing	Boolean	Whether the job migrates incremental data
delete_rows	Integer	Number of deleted rows
update_rows	Integer	Number of updated rows
write_rows	Integer	Number of written rows
submission-id	Integer	Job submission ID

Parameter	Type	Description
job-name	String	Job name
creation-user	String	User who started the job
creation-date	Long	Job creation time, accurate to millisecond
execute-date	Long	Execution time
progress	Float	Job progress. If a job fails, the value is -1 . Otherwise, the value ranges from 0 to 100.
status	String	Job status <ul style="list-style-type: none"> ● BOOTING: The job is starting. ● FAILURE_ON_SUBMIT: The job failed to be submitted. ● RUNNING: The job is running. ● SUCCEEDED: The job was executed successfully. ● FAILED: The job failed. ● UNKNOWN: The job status is unknown. ● NEVER_EXECUTED: The job was not executed.
isStoppingIncrement	String	Whether to stop incremental data migration
is-execute-auto	Boolean	Whether to execute the job as scheduled
last-update-date	Long	Time when the job was last updated
last-udpate-user	String	User who last updated the job status
isDeleteJob	Boolean	Whether to delete the job after it is executed

Example Requests

Start a job with empty parameters.

```
PUT /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/job/jdbc2hive/start
{
  "variables" : {}
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "submissions" : [ {
    "job-name" : "jdbc2hive",
    "creation-user" : "cdm",
    "creation-date" : "1536905778725",
    "progress" : 1,
    "status" : "BOOTING"
  } ]
}
```

Status Codes

Status Code	Description
200	Request succeeded.

Error Codes

See [Error Codes](#).

4.2.8 Querying Job Status

Function

This API is used to query the job status.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/clusters/{cluster_id}/cdm/job/{job_name}/status

Table 4-154 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID
job_name	Yes	String	Job name

Request Parameters

Table 4-155 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 4-156** Response body parameters

Parameter	Type	Description
submissions	Array of Submission objects	Job running information. For details, see the descriptions of submission parameters.

Table 4-157 Submission

Parameter	Type	Description
isIncrementing	Boolean	Whether the job migrates incremental data
job-name	String	Job name
counters	counters object	Job running result statistics. This parameter is available only when status is SUCCEEDED . For details, see the description of the counters parameter.
isStoppingIncrement	String	Whether to stop incremental data migration
is-execute-auto	Boolean	Whether to execute the job as scheduled
last-update-date	Long	Time when the job was last updated
last-update-user	String	User who last updated the job status
isDeleteJob	Boolean	Whether to delete the job after it is executed

Parameter	Type	Description
creation-user	String	User who submitted the job
creation-date	Long	Creation time
external-id	String	Job ID
progress	Float	Job progress. If a job fails, the value is -1 . Otherwise, the value ranges from 0 to 100.
submission-id	Integer	Job submission ID
delete_rows	Integer	Number of deleted rows
update_rows	Integer	Number of updated rows
write_rows	Integer	Number of written rows
execute-date	Long	Execution time
status	String	Job status <ul style="list-style-type: none"> ● BOOTING: The job is starting. ● FAILURE_ON_SUBMIT: The job failed to be submitted. ● RUNNING: The job is running. ● SUCCEEDED: The job was executed successfully. ● FAILED: The job failed. ● UNKNOWN: The job status is unknown. ● NEVER_EXECUTED: The job was not executed.
error-details	String	Error details. This parameter is available only when status is FAILED .
error-summary	String	Error summary. This parameter is available only when status is FAILED .

Table 4-158 counters

Parameter	Type	Description
org.apache.sqoop.submission.counter.SqoopCounters	counter object	Job running result statistics. For details, see the descriptions of counter parameters.

Table 4-159 counter

Parameter	Type	Description
BYTES_WRITTEN	Long	Number of bytes written
TOTAL_FILES	Integer	Total number of files
ROWS_READ	Long	Number of rows read
BYTES_READ	Long	Number of bytes read
ROWS_WRITTEN	Long	Number of rows written
FILES_WRITTEN	Integer	Number of files written
FILES_READ	Integer	Number of files read
TOTAL_SIZE	Long	Total number of bytes
FILES_SKIPPED	Integer	Number of files skipped
ROWS_WRITTEN_SKIPPED	Long	Number of rows skipped

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/job/jdbc2hive/status
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "submissions" : [ {
    "job-name" : "jdbc2hive",
    "creation-user" : "cdm",
    "creation-date" : "1536905778725",
    "progress" : 1,
    "status" : "BOOTING"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
```



```
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ShowJobStatusSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowJobStatusRequest request = new ShowJobStatusRequest();
        request.withClusterId("{cluster_id}");
        request.withJobName("{job_name}");
        try {
            ShowJobStatusResponse response = client.showJobStatus(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"
```

```
credentials = BasicCredentials(ak, sk, projectId)

client = CdmClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(CdmRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ShowJobStatusRequest()
    request.cluster_id = "{cluster_id}"
    request.job_name = "{job_name}"
    response = client.show_job_status(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowJobStatusRequest{}
    request.ClusterId = "{cluster_id}"
    request.JobName = "{job_name}"
    response, err := client.ShowJobStatus(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.

Error Codes

See [Error Codes](#).

4.2.9 Querying Job Execution History

Function

This API is used to query the job execution history.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/clusters/{cluster_id}/cdm/submissions

Table 4-160 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID

Table 4-161 Query Parameters

Parameter	Mandatory	Type	Description
jname	Yes	String	Job name

Request Parameters

Table 4-162 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-163 Response body parameters

Parameter	Type	Description
submissions	Array of Submission objects	Job running information. For details, see the descriptions of submission parameters.
total	Integer	Total number of historical records for a job
page_no	Integer	Page number
page_size	Integer	Number of records on each page. The default value is 10 .

Table 4-164 Submission

Parameter	Type	Description
isIncrementing	Boolean	Whether the job migrates incremental data
job-name	String	Job name
counters	counters object	Job running result statistics. This parameter is available only when status is SUCCEEDED . For details, see the description of the counters parameter.
isStoppingIncrement	String	Whether to stop incremental data migration
is-execute-auto	Boolean	Whether to execute the job as scheduled

Parameter	Type	Description
last-update-date	Long	Time when the job was last updated
last-udpate-user	String	User who last updated the job status
isDeleteJob	Boolean	Whether to delete the job after it is executed
creation-user	String	User who submitted the job
creation-date	Long	Creation time
external-id	String	Job ID
progress	Float	Job progress. If a job fails, the value is -1 . Otherwise, the value ranges from 0 to 100.
submission-id	Integer	Job submission ID
delete_rows	Integer	Number of deleted rows
update_rows	Integer	Number of updated rows
write_rows	Integer	Number of written rows
execute-date	Long	Execution time
status	String	Job status <ul style="list-style-type: none">● BOOTING: The job is starting.● FAILURE_ON_SUBMIT: The job failed to be submitted.● RUNNING: The job is running.● SUCCEEDED: The job was executed successfully.● FAILED: The job failed.● UNKNOWN: The job status is unknown.● NEVER_EXECUTED: The job was not executed.
error-details	String	Error details. This parameter is available only when status is FAILED .
error-summary	String	Error summary. This parameter is available only when status is FAILED .

Table 4-165 counters

Parameter	Type	Description
org.apache.sqoop.submission.counter.SqoopCounters	counter object	Job running result statistics. For details, see the descriptions of counter parameters.

Table 4-166 counter

Parameter	Type	Description
BYTES_WRITTEN	Long	Number of bytes written
TOTAL_FILES	Integer	Total number of files
ROWS_READ	Long	Number of rows read
BYTES_READ	Long	Number of bytes read
ROWS_WRITTEN	Long	Number of rows written
FILES_WRITTEN	Integer	Number of files written
FILES_READ	Integer	Number of files read
TOTAL_SIZE	Long	Total number of bytes
FILES_SKIPPED	Integer	Number of files skipped
ROWS_WRITTEN_SKIPPED	Long	Number of rows skipped

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/submissions?jname=jdbc2hive
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "submissions" : [ {
    "job-name" : "jdbc2hive",
    "creation-user" : "cdm",
    "creation-date" : "1536905778725",
    "progress" : 1,
    "status" : "BOOTING"
  } ]
}
```

```
    }]  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;  
import com.huaweicloud.sdk.cdm.v1.*;  
import com.huaweicloud.sdk.cdm.v1.model.*;  
  
public class ShowSubmissionsSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        CdmClient client = CdmClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))  
            .build();  
        ShowSubmissionsRequest request = new ShowSubmissionsRequest();  
        request.withClusterId("{cluster_id}");  
        try {  
            ShowSubmissionsResponse response = client.showSubmissions(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials
```

```
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowSubmissionsRequest()
        request.cluster_id = "{cluster_id}"
        response = client.show_submissions(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowSubmissionsRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ShowSubmissions(request)
```



```
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.

Error Codes

See [Error Codes](#).

4.3 Link Management

4.3.1 Creating a Link

Function

This API is used to create a link.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1.1/{project_id}/clusters/{cluster_id}/cdm/link

Table 4-167 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID

Table 4-168 Query Parameters

Parameter	Mandatory	Type	Description
validate	No	String	When the parameter is set to true , the API only validates whether the parameters are correctly configured, but does not create any link.

Request Parameters

Table 4-169 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-170 Request body parameters

Parameter	Mandatory	Type	Description
links	Yes	Array of links objects	Link list. For details, see the descriptions of links parameters.

Table 4-171 links

Parameter	Mandatory	Type	Description
link-config-values	Yes	link-config-values object	Link parameters. For details, see the descriptions of link-config-values parameters.
creation-user	No	String	User who created a link
name	Yes	String	Link name
id	No	Integer	Link ID
creation-date	No	Long	Time when a link was created

Parameter	Mandatory	Type	Description
connector-name	Yes	String	Connector name. The corresponding link parameter is generic-jdbc-connector , which indicates a relational database link. obs-connector : link to OBS hdfs-connector : link to HDFS hbase-connector : link to HBase and link to CloudTable hive-connector : link to Hive ftp-connector/sftp-connector : link to an FTP or SFTP server mongodb-connector : link to MongoDB redis-connector : link to Redis/DCS kafka-connector : link to Kafka dis-connector : link to DIS elasticsearch-connector : link to Elasticsearch/Cloud Search Service (CSS) [dli-connector : link to DLI] (tag:nohcs) http-connector : link to HTTP/HTTPS (No link parameters are required.) dms-kafka-connector : link to DMSKafka
update-date	No	Long	Time when a link was updated
enabled	No	Boolean	Whether to activate the link. The default value is true .
update-user	No	String	User who updated a link

Table 4-172 link-config-values

Parameter	Mandatory	Type	Description
configs	Yes	Array of configs objects	Data structure of link parameters. For details, see the descriptions of configs parameters.
extended-configs	No	extended-configs object	Extended configuration. For details, see the descriptions of extended-configs parameters.
validators	No	Array of strings	Validator

Table 4-173 configs

Parameter	Mandatory	Type	Description
inputs	Yes	Array of Input objects	Input parameter list. Each element in the list is in <i>name,value</i> format. For details, see the descriptions of inputs parameters. In the from-config-values data structure, the value of this parameter varies with the source link type. For details, see section "Source Job Parameters" in the <i>Cloud Data Migration User Guide</i> . In the to-config-values data structure, the value of this parameter varies with the destination link type. For details, see section "Destination Job Parameters" in the <i>Cloud Data Migration User Guide</i> . For details about the inputs parameter in the driver-config-values data structure, see the job parameter descriptions.
name	Yes	String	Configuration name. The value is fromJobConfig for a source job, toJobConfig for a destination job, and linkConfig for a link.
id	No	Integer	Configuration ID, which is generated by the system. You do not need to set this parameter.
type	No	String	Configuration type, which is generated by the system. You do not need to set this parameter. The value can be LINK (for link management APIs) or JOB (for job management APIs).

Table 4-174 Input

Parameter	Mandatory	Type	Description
name	Yes	String	<p>Parameter name.</p> <ul style="list-style-type: none"> For link management APIs, parameter names start with linkConfig.. The parameters vary depending on the link type. For details, see the parameter descriptions of the corresponding link in Link Parameters. For job management APIs, source link parameter names start with fromJobConfig.. For details, see the source job parameters in Source Job Parameters. Destination link parameter names start with toJobConfig.. For details, see Destination Job Parameters. For details about job parameters, see the task parameter descriptions in Job Parameters.
value	Yes	Object	Parameter value, which must be a string.
type	No	String	Value type, such as STRING and INTEGER . The value is set by the system.

Table 4-175 extended-configs

Parameter	Mandatory	Type	Description
name	No	String	Name
value	No	String	Value

Response Parameters

Status code: 200

Table 4-176 Response body parameters

Parameter	Type	Description
name	String	Link name
validation-result	Array of validationResult objects	Validation structure. If a link fails to be created, the failure cause is returned. For details, see the descriptions of validation-result parameters. If a link is successfully created, an empty list is returned.

Table 4-177 validationResult

Parameter	Type	Description
linkConfig	Array of validationLinkConfig objects	Validation result of link creation or update. For details, see the descriptions of validationLinkConfig parameters.

Table 4-178 validationLinkConfig

Parameter	Type	Description
message	String	Error message
status	String	Error level, for example, ERROR or WARNING

Status code: 400**Table 4-179** Response body parameters

Parameter	Type	Description
code	String	Return code
errCode	String	Error code
message	String	Error message
externalMessage	String	Additional information

Status code: 500

Table 4-180 Response body parameters

Parameter	Type	Description
message	String	Error message
status	String	Error level, for example, ERROR or WARNING

Example Requests

Creating a link named `mysql_link`

POST /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/link

```
{
  "links": [ {
    "link-config-values": {
      "configs": [ {
        "inputs": [ {
          "name": "linkConfig.databaseType",
          "value": "MYSQL"
        }, {
          "name": "linkConfig.host",
          "value": "100.94.8.163"
        }, {
          "name": "linkConfig.port",
          "value": "3306"
        }, {
          "name": "linkConfig.database",
          "value": "DB_name"
        }, {
          "name": "linkConfig.username",
          "value": "username"
        }, {
          "name": "linkConfig.password",
          "value": "DB_password"
        }, {
          "name": "linkConfig.fetchSize",
          "value": "100000"
        }, {
          "name": "linkConfig.usingNative",
          "value": "false"
        }
      ]
    },
    "name": "linkConfig"
  } ]
},
  "name": "mysql_link",
  "creation-date": 1496654788622,
  "connector-name": "generic-jdbc-connector",
  "update-date": 1496654788622,
  "enabled": true
} ] }
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "name": "rdb_link",
  "validation-result": [ { } ]
}
```

Status code: 400

Request error.

```
{
  "code" : "Cdm.0315",
  "errCode" : "Cdm.0315",
  "message" : "Link name [ftp_link] already exist or created by other user.",
  "externalMessage" : "Link name [ftp_link] already exist or created by other user."
}
```

Status code: 500

Internal service error. For details about the returned error code, see Error Codes.

```
{
  "validation-result" : [ {
    "linkConfig" : [ {
      "message" : "Can't connect to the database with given credentials: The authentication type 12 is not supported. Check that you have configured the pg_hba.conf file to include the client's IP address or subnet, and that it is using an authentication scheme supported by the driver.",
      "status" : "ERROR"
    } ]
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Creating a link named **mysql_link**

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateLinkSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
```



```
.withRegion(CdmRegion.valueOf("<YOUR REGION>"))
    .build();
CreateLinkRequest request = new CreateLinkRequest();
request.withClusterId("{cluster_id}");
CdmCreateAndUpdateLinkReq body = new CdmCreateAndUpdateLinkReq();
List<Input> listConfigsInputs = new ArrayList<>();
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.databaseType")
        .withValue("MYSQL")
);
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.host")
        .withValue("100.94.8.163")
);
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.port")
        .withValue("3306")
);
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.database")
        .withValue("DB_name")
);
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.username")
        .withValue("username")
);
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.password")
        .withValue("DB_password")
);
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.fetchSize")
        .withValue("100000")
);
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.usingNative")
        .withValue("false")
);
List<Configs> listLinkConfigValuesConfigs = new ArrayList<>();
listLinkConfigValuesConfigs.add(
    new Configs()
        .withInputs(listConfigsInputs)
        .withName("linkConfig")
);
LinksLinkconfigvalues linkConfigValuesLinks = new LinksLinkconfigvalues();
linkConfigValuesLinks.withConfigs(listLinkConfigValuesConfigs);
List<Links> listbodyLinks = new ArrayList<>();
listbodyLinks.add(
    new Links()
        .withLinkConfigValues(linkConfigValuesLinks)
        .withName("mysql_link")
        .withCreationDate(1496654788622L)
        .withConnectorName("generic-jdbc-connector")
        .withUpdateDate(1496654788622L)
        .withEnabled(true)
);
body.withLinks(listbodyLinks);
request.withBody(body);
try {
    CreateLinkResponse response = client.createLink(request);
    System.out.println(response.toString());
}
```

```
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Creating a link named `mysql_link`

```
# coding: utf-8
```

```
import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateLinkRequest()
        request.cluster_id = "{cluster_id}"
        listInputsConfigs = [
            Input(
                name="linkConfig.databaseType",
                value="MYSQL"
            ),
            Input(
                name="linkConfig.host",
                value="100.94.8.163"
            ),
            Input(
                name="linkConfig.port",
                value="3306"
            ),
            Input(
                name="linkConfig.database",
                value="DB_name"
            ),
            Input(
                name="linkConfig.username",
                value="username"
            ),
            Input(
                name="linkConfig.password",
```

```
        value="DB_password"
    ),
    Input(
        name="linkConfig.fetchSize",
        value="100000"
    ),
    Input(
        name="linkConfig.usingNative",
        value="false"
    )
]
listConfigsLinkConfigValues = [
    Configs(
        inputs=listInputsConfigs,
        name="linkConfig"
    )
]
linkConfigValuesLinks = LinksLinkconfigvalues(
    configs=listConfigsLinkConfigValues
)
listLinksbody = [
    Links(
        link_config_values=linkConfigValuesLinks,
        name="mysql_link",
        creation_date=1496654788622,
        connector_name="generic-jdbc-connector",
        update_date=1496654788622,
        enabled=True
    )
]
request.body = CdmCreateAndUpdateLinkReq(
    links=listLinksbody
)
response = client.create_link(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Creating a link named **mysql_link**

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
```

```
Build()

client := cdm.NewCdmClient(
    cdm.CdmClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.CreateLinkRequest{}
request.ClusterId = "{cluster_id}"
valueInputs:= "MYSQL"
var valueInputsInterface interface{} = valueInputs
valueInputs1:= "100.94.8.163"
var valueInputsInterface1 interface{} = valueInputs1
valueInputs2:= "3306"
var valueInputsInterface2 interface{} = valueInputs2
valueInputs3:= "DB_name"
var valueInputsInterface3 interface{} = valueInputs3
valueInputs4:= "username"
var valueInputsInterface4 interface{} = valueInputs4
valueInputs5:= "DB_password"
var valueInputsInterface5 interface{} = valueInputs5
valueInputs6:= "100000"
var valueInputsInterface6 interface{} = valueInputs6
valueInputs7:= "false"
var valueInputsInterface7 interface{} = valueInputs7
var listInputsConfigs = []model.Input{
    {
        Name: "linkConfig.databaseType",
        Value: &valueInputsInterface,
    },
    {
        Name: "linkConfig.host",
        Value: &valueInputsInterface1,
    },
    {
        Name: "linkConfig.port",
        Value: &valueInputsInterface2,
    },
    {
        Name: "linkConfig.database",
        Value: &valueInputsInterface3,
    },
    {
        Name: "linkConfig.username",
        Value: &valueInputsInterface4,
    },
    {
        Name: "linkConfig.password",
        Value: &valueInputsInterface5,
    },
    {
        Name: "linkConfig.fetchSize",
        Value: &valueInputsInterface6,
    },
    {
        Name: "linkConfig.usingNative",
        Value: &valueInputsInterface7,
    },
}
var listConfigsLinkConfigValues = []model.Configs{
    {
        Inputs: listInputsConfigs,
        Name: "linkConfig",
    },
}
linkConfigValuesLinks := &model.LinksLinkconfigvalues{
    Configs: listConfigsLinkConfigValues,
}
```

```
creationDateLinks:= int64(1496654788622)
updateDateLinks:= int64(1496654788622)
enabledLinks:= true
var listLinksbody = []model.Links{
    {
        LinkConfigValues: linkConfigValuesLinks,
        Name: "mysql_link",
        CreationDate: &creationDateLinks,
        ConnectorName: "generic-jdbc-connector",
        UpdateDate: &updateDateLinks,
        Enabled: &enabledLinks,
    },
}
request.Body = &model.CdmCreateAndUpdateLinkReq{
    Links: listLinksbody,
}
response, err := client.CreateLink(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.3.2 Querying a Link

Function

This API is used to query a link.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1.1/{project_id}/clusters/{cluster_id}/cdm/link/{link_name}

Table 4-181 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID
link_name	Yes	String	Link name

Request Parameters

Table 4-182 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-183 Response body parameters

Parameter	Type	Description
links	Array of links objects	Link list. For details, see the descriptions of links parameters.
fromTo-unMapping	String	Source and destination data sources not supported by table/file migration
batchFromTo-mapping	String	Source and destination data sources supported by entire DB migration

Table 4-184 links

Parameter	Type	Description
link-config-values	link-config-values object	Link parameters. For details, see the descriptions of link-config-values parameters.
creation-user	String	User who created a link
name	String	Link name
id	Integer	Link ID
creation-date	Long	Time when a link was created
connector-name	String	Connector name. The corresponding link parameter is generic-jdbc-connector , which indicates a relational database link. obs-connector : link to OBS hdfs-connector : link to HDFS hbase-connector : link to HBase and link to CloudTable hive-connector : link to Hive ftp-connector/sftp-connector : link to an FTP or SFTP server mongodb-connector : link to MongoDB redis-connector : link to Redis/DCS kafka-connector : link to Kafka dis-connector : link to DIS elasticsearch-connector : link to Elasticsearch/Cloud Search Service (CSS) [dli-connector : link to DLI] (tag:nohcs) http-connector : link to HTTP/HTTPS (No link parameters are required.) dms-kafka-connector : link to DMSKafka
update-date	Long	Time when a link was updated
enabled	Boolean	Whether to activate the link. The default value is true .
update-user	String	User who updated a link

Table 4-185 link-config-values

Parameter	Type	Description
configs	Array of configs objects	Data structure of link parameters. For details, see the descriptions of configs parameters.
extended-configs	extended-configs object	Extended configuration. For details, see the descriptions of extended-configs parameters.
validators	Array of strings	Validator

Table 4-186 configs

Parameter	Type	Description
inputs	Array of Input objects	Input parameter list. Each element in the list is in <i>name,value</i> format. For details, see the descriptions of inputs parameters. In the from-config-values data structure, the value of this parameter varies with the source link type. For details, see section "Source Job Parameters" in the <i>Cloud Data Migration User Guide</i> . In the to-config-values data structure, the value of this parameter varies with the destination link type. For details, see section "Destination Job Parameters" in the <i>Cloud Data Migration User Guide</i> . For details about the inputs parameter in the driver-config-values data structure, see the job parameter descriptions.
name	String	Configuration name. The value is fromJobConfig for a source job, toJobConfig for a destination job, and linkConfig for a link.
id	Integer	Configuration ID, which is generated by the system. You do not need to set this parameter.
type	String	Configuration type, which is generated by the system. You do not need to set this parameter. The value can be LINK (for link management APIs) or JOB (for job management APIs).

Table 4-187 Input

Parameter	Type	Description
name	String	Parameter name. <ul style="list-style-type: none">For link management APIs, parameter names start with linkConfig. The parameters vary depending on the link type. For details, see the parameter descriptions of the corresponding link in Link Parameters.For job management APIs, source link parameter names start with fromJobConfig. For details, see the source job parameters in Source Job Parameters. Destination link parameter names start with toJobConfig. For details, see Destination Job Parameters. For details about job parameters, see the task parameter descriptions in Job Parameters.

Parameter	Type	Description
value	Object	Parameter value, which must be a string.
type	String	Value type, such as STRING and INTEGER . The value is set by the system.

Table 4-188 extended-configs

Parameter	Type	Description
name	String	Name
value	String	Value

Example Requests

```
GET /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/link/sftplink
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "links" : [ {
    "link-config-values" : {
      "configs" : [ {
        "inputs" : [ {
          "name" : "linkConfig.server",
          "type" : "STRING",
          "value" : "100.94.8.163"
        }, {
          "name" : "linkConfig.port",
          "type" : "INTEGER",
          "value" : 22
        }, {
          "name" : "linkConfig.username",
          "type" : "STRING",
          "value" : "root"
        }, {
          "name" : "linkConfig.password",
          "type" : "STRING",
          "value" : "Add password here"
        }
      ]
    },
    "name" : "linkConfig"
  }
  ],
  "creation-user" : "cdm",
  "name" : "sftp_link",
  "creation-date" : 1516674482640,
  "connector-name" : "sftp-connector",
  "update-date" : 1516674476022,
  "enabled" : true,
  "update-user" : "cdm"
} ] }
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

public class ShowLinkSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowLinkRequest request = new ShowLinkRequest();
        request.withClusterId("{cluster_id}");
        request.withLinkName("{link_name}");
        try {
            ShowLinkResponse response = client.showLink(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *
```

```
if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowLinkRequest()
        request.cluster_id = "{cluster_id}"
        request.link_name = "{link_name}"
        response = client.show_link(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowLinkRequest{}
    request.ClusterId = "{cluster_id}"
    request.LinkName = "{link_name}"
    response, err := client.ShowLink(request)
    if err == nil {
```

```
    fmt.Printf("%+v\n", response)
  } else {
    fmt.Println(err)
  }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.3.3 Deleting a Link

Function

This API is used to delete a link.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v1.1/{project_id}/clusters/{cluster_id}/cdm/link/{link_name}

Table 4-189 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID
link_name	Yes	String	Name of the link to be deleted

Request Parameters

Table 4-190 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 500

Table 4-191 Response body parameters

Parameter	Type	Description
errCode	String	Error code
externalMessage	String	Error message

Example Requests

```
DELETE /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/link/jdbclink
```

Example Responses

Status code: 500

Internal service error. For details about the returned error code, see Error Codes.

```
{
  "errCode": "Cdm.0021",
```

```
"externalMessage" : "Given link name is in use"  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;  
import com.huaweicloud.sdk.cdm.v1.*;  
import com.huaweicloud.sdk.cdm.v1.model.*;  
  
public class DeleteLinkSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        CdmClient client = CdmClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))  
            .build();  
        DeleteLinkRequest request = new DeleteLinkRequest();  
        request.withClusterId("{cluster_id}");  
        request.withLinkName("{link_name}");  
        try {  
            DeleteLinkResponse response = client.deleteLink(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8  
  
import os
```

```
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CdmClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CdmRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteLinkRequest()
        request.cluster_id = "{cluster_id}"
        request.link_name = "{link_name}"
        response = client.delete_link(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteLinkRequest{}
```

```
request.ClusterId = "{cluster_id}"
request.LinkName = "{link_name}"
response, err := client.DeleteLink(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.3.4 Modifying a Link

Function

This API is used to modify a link.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1.1/{project_id}/clusters/{cluster_id}/cdm/link/{link_name}

Table 4-192 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
cluster_id	Yes	String	Cluster ID
link_name	Yes	String	Link name

Request Parameters

Table 4-193 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-194 Request body parameters

Parameter	Mandatory	Type	Description
links	Yes	Array of links objects	Link list. For details, see the descriptions of links parameters.

Table 4-195 links

Parameter	Mandatory	Type	Description
link-config-values	Yes	link-config-values object	Link parameters. For details, see the descriptions of link-config-values parameters.
creation-user	No	String	User who created a link
name	Yes	String	Link name
id	No	Integer	Link ID
creation-date	No	Long	Time when a link was created

Parameter	Mandatory	Type	Description
connector-name	Yes	String	Connector name. The corresponding link parameter is generic-jdbc-connector , which indicates a relational database link. obs-connector : link to OBS hdfs-connector : link to HDFS hbase-connector : link to HBase and link to CloudTable hive-connector : link to Hive ftp-connector/sftp-connector : link to an FTP or SFTP server mongodb-connector : link to MongoDB redis-connector : link to Redis/DCS kafka-connector : link to Kafka dis-connector : link to DIS elasticsearch-connector : link to Elasticsearch/Cloud Search Service (CSS) [dli-connector : link to DLI] (tag:nohcs) http-connector : link to HTTP/HTTPS (No link parameters are required.) dms-kafka-connector : link to DMSKafka
update-date	No	Long	Time when a link was updated
enabled	No	Boolean	Whether to activate the link. The default value is true .
update-user	No	String	User who updated a link

Table 4-196 link-config-values

Parameter	Mandatory	Type	Description
configs	Yes	Array of configs objects	Data structure of link parameters. For details, see the descriptions of configs parameters.
extended-configs	No	extended-configs object	Extended configuration. For details, see the descriptions of extended-configs parameters.
validators	No	Array of strings	Validator

Table 4-197 configs

Parameter	Mandatory	Type	Description
inputs	Yes	Array of Input objects	Input parameter list. Each element in the list is in <i>name,value</i> format. For details, see the descriptions of inputs parameters. In the from-config-values data structure, the value of this parameter varies with the source link type. For details, see section "Source Job Parameters" in the <i>Cloud Data Migration User Guide</i> . In the to-config-values data structure, the value of this parameter varies with the destination link type. For details, see section "Destination Job Parameters" in the <i>Cloud Data Migration User Guide</i> . For details about the inputs parameter in the driver-config-values data structure, see the job parameter descriptions.
name	Yes	String	Configuration name. The value is fromJobConfig for a source job, toJobConfig for a destination job, and linkConfig for a link.
id	No	Integer	Configuration ID, which is generated by the system. You do not need to set this parameter.
type	No	String	Configuration type, which is generated by the system. You do not need to set this parameter. The value can be LINK (for link management APIs) or JOB (for job management APIs).

Table 4-198 Input

Parameter	Mandatory	Type	Description
name	Yes	String	<p>Parameter name.</p> <ul style="list-style-type: none"> For link management APIs, parameter names start with linkConfig.. The parameters vary depending on the link type. For details, see the parameter descriptions of the corresponding link in Link Parameters. For job management APIs, source link parameter names start with fromJobConfig.. For details, see the source job parameters in Source Job Parameters. Destination link parameter names start with toJobConfig.. For details, see Destination Job Parameters. For details about job parameters, see the task parameter descriptions in Job Parameters.
value	Yes	Object	Parameter value, which must be a string.
type	No	String	Value type, such as STRING and INTEGER . The value is set by the system.

Table 4-199 extended-configs

Parameter	Mandatory	Type	Description
name	No	String	Name
value	No	String	Value

Response Parameters

Status code: 200

Table 4-200 Response body parameters

Parameter	Type	Description
validation-result	Array of validationResult objects	Validation structure. If a link fails to be created, the failure cause is returned. For details, see the descriptions of validation-result parameters. If a link is successfully created, an empty list is returned.

Table 4-201 validationResult

Parameter	Type	Description
linkConfig	Array of validationLinkConfig objects	Validation result of link creation or update. For details, see the descriptions of validationLinkConfig parameters.

Table 4-202 validationLinkConfig

Parameter	Type	Description
message	String	Error message
status	String	Error level, for example, ERROR or WARNING

Status code: 500

Table 4-203 Response body parameters

Parameter	Type	Description
message	String	Error message
status	String	Error level, for example, ERROR or WARNING

Example Requests

Modifying a link named **mysql_link**

```
PUT /v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/link/rdb_link
```

```
{
  "links" : [ {
    "link-config-values" : {
      "configs" : [ {
        "inputs" : [ {
          "name" : "linkConfig.databaseType",
```

```
    "value" : "MYSQL"
  }, {
    "name" : "linkConfig.host",
    "value" : "100.94.8.163"
  }, {
    "name" : "linkConfig.port",
    "value" : "3306"
  }, {
    "name" : "linkConfig.database",
    "value" : "DB_name"
  }, {
    "name" : "linkConfig.username",
    "value" : "username"
  }, {
    "name" : "linkConfig.password",
    "value" : "DB_password"
  }, {
    "name" : "linkConfig.fetchSize",
    "value" : "100000"
  }, {
    "name" : "linkConfig.usingNative",
    "value" : "false"
  }
],
"name" : "linkConfig"
}]
},
"name" : "mysql_link",
"creation-date" : 1496654788622,
"connector-name" : "generic-jdbc-connector",
"update-date" : 1496654788622,
"enabled" : true
}]
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "validation-result" : [ {} ]
}
```

Status code: 500

Internal service error. For details about the returned error code, see Error Codes.

```
{
  "validation-result" : [ {
    "linkConfig" : [ {
      "message" : "Can't connect to the database with given credentials: The authentication type 12 is not supported. Check that you have configured the pg_hba.conf file to include the client's IP address or subnet, and that it is using an authentication scheme supported by the driver.",
      "status" : "ERROR"
    }
  ]
}
]
```

SDK Sample Code

The SDK sample code is as follows.

Java

Modifying a link named **mysql_link**

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cdm.v1.region.CdmRegion;
import com.huaweicloud.sdk.cdm.v1.*;
import com.huaweicloud.sdk.cdm.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class UpdateLinkSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        CdmClient client = CdmClient.newBuilder()
            .withCredential(auth)
            .withRegion(CdmRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateLinkRequest request = new UpdateLinkRequest();
        request.withClusterId("{cluster_id}");
        request.withLinkName("{link_name}");
        CdmCreateAndUpdateLinkReq body = new CdmCreateAndUpdateLinkReq();
        List<Input> listConfigsInputs = new ArrayList<>();
        listConfigsInputs.add(
            new Input()
                .withName("linkConfig.databaseType")
                .withValue("MYSQL")
        );
        listConfigsInputs.add(
            new Input()
                .withName("linkConfig.host")
                .withValue("100.94.8.163")
        );
        listConfigsInputs.add(
            new Input()
                .withName("linkConfig.port")
                .withValue("3306")
        );
        listConfigsInputs.add(
            new Input()
                .withName("linkConfig.database")
                .withValue("DB_name")
        );
        listConfigsInputs.add(
            new Input()
                .withName("linkConfig.username")
                .withValue("username")
        );
        listConfigsInputs.add(
            new Input()
                .withName("linkConfig.password")
                .withValue("DB_password")
        );
    }
}
```

```
);
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.fetchSize")
        .withValue("100000")
);
listConfigsInputs.add(
    new Input()
        .withName("linkConfig.usingNative")
        .withValue("false")
);
List<Configs> listLinkConfigValuesConfigs = new ArrayList<>();
listLinkConfigValuesConfigs.add(
    new Configs()
        .withInputs(listConfigsInputs)
        .withName("linkConfig")
);
LinksLinkconfigvalues linkConfigValuesLinks = new LinksLinkconfigvalues();
linkConfigValuesLinks.withConfigs(listLinkConfigValuesConfigs);
List<Links> listbodyLinks = new ArrayList<>();
listbodyLinks.add(
    new Links()
        .withLinkConfigValues(linkConfigValuesLinks)
        .withName("mysql_link")
        .withCreationDate(1496654788622L)
        .withConnectorName("generic-jdbc-connector")
        .withUpdateDate(1496654788622L)
        .withEnabled(true)
);
body.withLinks(listbodyLinks);
request.withBody(body);
try {
    UpdateLinkResponse response = client.updateLink(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Modifying a link named **mysql_link**

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcdm.v1.region.cdm_region import CdmRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcdm.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"
```



```
credentials = BasicCredentials(ak, sk, projectId)

client = CdmClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(CdmRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = UpdateLinkRequest()
    request.cluster_id = "{cluster_id}"
    request.link_name = "{link_name}"
    listInputsConfigs = [
        Input(
            name="linkConfig.databaseType",
            value="MYSQL"
        ),
        Input(
            name="linkConfig.host",
            value="100.94.8.163"
        ),
        Input(
            name="linkConfig.port",
            value="3306"
        ),
        Input(
            name="linkConfig.database",
            value="DB_name"
        ),
        Input(
            name="linkConfig.username",
            value="username"
        ),
        Input(
            name="linkConfig.password",
            value="DB_password"
        ),
        Input(
            name="linkConfig.fetchSize",
            value="100000"
        ),
        Input(
            name="linkConfig.usingNative",
            value="false"
        )
    ]
    listConfigsLinkConfigValues = [
        Configs(
            inputs=listInputsConfigs,
            name="linkConfig"
        )
    ]
    linkConfigValuesLinks = LinksLinkconfigvalues(
        configs=listConfigsLinkConfigValues
    )
    listLinksbody = [
        Links(
            link_config_values=linkConfigValuesLinks,
            name="mysql_link",
            creation_date=1496654788622,
            connector_name="generic-jdbc-connector",
            update_date=1496654788622,
            enabled=True
        )
    ]
    request.body = CdmCreateAndUpdateLinkReq(
        links=listLinksbody
    )
    response = client.update_link(request)
```

```
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Modifying a link named `mysql_link`

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cdm "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cdm/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cdm.NewCdmClient(
        cdm.CdmClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateLinkRequest{}
    request.ClusterId = "{cluster_id}"
    request.LinkName = "{link_name}"
    valueInputs := "MYSQL"
    var valueInputsInterface interface{} = valueInputs
    valueInputs1 := "100.94.8.163"
    var valueInputsInterface1 interface{} = valueInputs1
    valueInputs2 := "3306"
    var valueInputsInterface2 interface{} = valueInputs2
    valueInputs3 := "DB_name"
    var valueInputsInterface3 interface{} = valueInputs3
    valueInputs4 := "username"
    var valueInputsInterface4 interface{} = valueInputs4
    valueInputs5 := "DB_password"
    var valueInputsInterface5 interface{} = valueInputs5
    valueInputs6 := "100000"
    var valueInputsInterface6 interface{} = valueInputs6
    valueInputs7 := "false"
    var valueInputsInterface7 interface{} = valueInputs7
    var listInputsConfigs = []model.Input{
        {
            Name: "linkConfig.databaseType",
            Value: &valueInputsInterface,
        },
        {
            Name: "linkConfig.host",
```

```
        Value: &valueInputsInterface1,
    },
    {
        Name: "linkConfig.port",
        Value: &valueInputsInterface2,
    },
    {
        Name: "linkConfig.database",
        Value: &valueInputsInterface3,
    },
    {
        Name: "linkConfig.username",
        Value: &valueInputsInterface4,
    },
    {
        Name: "linkConfig.password",
        Value: &valueInputsInterface5,
    },
    {
        Name: "linkConfig.fetchSize",
        Value: &valueInputsInterface6,
    },
    {
        Name: "linkConfig.usingNative",
        Value: &valueInputsInterface7,
    },
}
var listConfigsLinkConfigValues = []model.Configs{
    {
        Inputs: listInputsConfigs,
        Name: "linkConfig",
    },
}
linkConfigValuesLinks := &model.LinksLinkconfigvalues{
    Configs: listConfigsLinkConfigValues,
}
creationDateLinks:= int64(1496654788622)
updateDateLinks:= int64(1496654788622)
enabledLinks:= true
var listLinksbody = []model.Links{
    {
        LinkConfigValues: linkConfigValuesLinks,
        Name: "mysql_link",
        CreationDate: &creationDateLinks,
        ConnectorName: "generic-jdbc-connector",
        UpdateDate: &updateDateLinks,
        Enabled: &enabledLinks,
    },
}
request.Body = &model.CdmCreateAndUpdateLinkReq{
    Links: listLinksbody,
}
response, err := client.UpdateLink(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal service error. For details about the returned error code, see Error Codes.
503	Service unavailable.

Error Codes

See [Error Codes](#).

4.4 Public Data Structures

4.4.1 Link Parameter Description

4.4.1.1 Link to a Relational Database

Description

By creating a JDBC link, you can extract data from or load data to the following relational databases:

- RDS for PostgreSQL
- RDS for SQL Server
- PostgreSQL
- Microsoft SQL Server

Sample Link

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.databaseType",
                "value": "MYSQL"
              }
            ]
          }
        ]
      }
    }
  ]
}
```

```

    {
      "name": "linkConfig.host",
      "value": "10.120.205.30"
    },
    {
      "name": "linkConfig.port",
      "value": "3306"
    },
    {
      "name": "linkConfig.database",
      "value": "DB_name"
    },
    {
      "name": "linkConfig.username",
      "value": "username"
    },
    {
      "name": "linkConfig.password",
      "value": "Add password here"
    },
    {
      "name": "linkConfig.fetchSize",
      "value": "10000"
    },
    {
      "name": "linkConfig.commitSize",
      "value": "10000"
    },
    {
      "name": "linkConfig.usingNative",
      "value": "false"
    },
    {
      "name": "linkConfig.useSSL",
      "value": "false"
    }
  ],
  "name": "linkConfig"
}
],
"name": "mysql_link",
"connector-name": "generic-jdbc-connector"
}
]
}

```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.data baseType	Yes	Enumeration	Database type. The options are as follows: <ul style="list-style-type: none"> ● ORACLE ● MYSQL ● SQLSERVER ● DB2 ● POSTGRESQL ● DWS ● DDM ● SAP HANA

Parameter	Mandatory	Type	Description
linkConfig.host	Yes	String	IP address of the database server
linkConfig.port	Yes	String	Port number of the database server
linkConfig.databaseconfig	No	Enumeration	Oracle database link type. This parameter is available only when an Oracle link is created. The options are as follows: <ul style="list-style-type: none">• SERVICENAME: Use SERVICE_NAME to connect to the Oracle database.• SID: Use SID to connect to the Oracle database.
linkConfig.sidname	No	String	Oracle instance ID, which is used to differentiate databases by instances. This parameter is available only when an Oracle link is created and the database link type linkConfig.databaseconfig is set to SID .
linkConfig.database	No	String	Database name
linkConfig.username	Yes	String	Username
linkConfig.password	Yes	String	Password
linkConfig.fetchSize	No	String	Number of data rows obtained each time
linkConfig.commitSize	No	String	Number of data rows submitted in each request

Parameter	Mandatory	Type	Description
linkConfig.using Native	No	Boolean	<p>Whether to use the local API acceleration function of the database</p> <p>When creating a MySQL link, you can use the LOAD DATA function of MySQL to accelerate data import and improve the performance of importing data to the MySQL database.</p> <p>NOTE</p> <p>The REPLACE and IGNORE modifiers are used to process the injected rows that have the same unique key value (PRIMARY KEY or UNIQUE index value) as an existing row.</p> <ul style="list-style-type: none"> • If Constraint Conflict Handling is set to replace into or local and the REPLACE modifier is used, a new row with the same unique key value as an existing row will replace the existing row. • If Constraint Conflict Handling is set to insert into, the IGNORE modifier is used by default, and a new row with the same unique key value as an existing row will be discarded, but the task will not be terminated. The MySQL service cannot stop file transfer in progress. Therefore, the number of written records displayed on the CDM console is inconsistent with the actual number of updated rows. <p>For details about the MySQL local mode, visit https://dev.mysql.com/doc/refman/8.0/en/load-data.html.</p>
linkConfig.isRds	No	Boolean	<p>Whether RDS is supported. The default value true is used for cloud databases and false is used for other databases.</p>

Parameter	Mandatory	Type	Description
linkConfig.useSSL	No	Boolean	Whether to enable SSL encrypted transmission for RDS. This parameter is available only when you create a DWS connection.
linkConfig.jdbcProperties	No	Map	Link attribute, which specifies the JDBC connector attributes of the data source. For details about how to configure the link attributes, see the JDBC connector description of the corresponding database.
linkConfig.version	No	Enumeration	<p>Oracle database version. This parameter is available only when you create an Oracle link. The options are as follows:</p> <ul style="list-style-type: none">● HIGH_VERSION: Select this value if the Oracle database version is later than 12.1.● MED_VERSION: Select this value if the Oracle database version is 12.1.● LOW_VERSION: Select this value if the Oracle database version is earlier than 12.1. <p>If error message "java.sql.SQLException: Protocol violation" is displayed, select another option.</p>
dialect.identifierEnclose	No	String	Reference identifier, which is the delimiter between the referenced table names or column names. For details, see the product documentation of the corresponding database.

4.4.1.2 Link to OBS

Description

By creating an OBS link, you can extract files from or load files to Object Storage Service (OBS). Files in CSV, JSON, and binary format are supported.

Sample Link

The following is the message body of a sample link. You are advised to store the AK and SK in ciphertext in the configuration file or environment variables and decrypt them when needed to ensure security.

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.storageType",
                "value": "OBS"
              },
              {
                "name": "linkConfig.obsBucketType",
                "value": "PFS"
              },
              {
                "name": "linkConfig.server",
                "value": "10.121.16.183"
              },
              {
                "name": "linkConfig.port",
                "value": "443"
              },
              {
                "name": "linkConfig.accessKey",
                "value": "<YOUR AK>"
              },
              {
                "name": "linkConfig.securityKey",
                "value": "<YOUR SK>"
              }
            ],
            "name": "linkConfig"
          }
        ]
      },
      "name": "obs_link",
      "connector-name": "obs-connector"
    }
  ]
}
```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.storageType	Yes	String	Storage class of an object

Parameter	Mandatory	Type	Description
linkConfig.obsBucketType	No	String	OBS bucket type <ul style="list-style-type: none"> ● OB: object bucket ● PFS: parallel file system NOTE A parallel file system is recommended because filtering files in an object bucket is slow.
linkConfig.server	Yes	String	Endpoint of the OBS server.
linkConfig.port	Yes	String	Data transmission port. The HTTPS port number is 443 and the HTTP port number is 80.
linkConfig.accessKey	Yes	String	AK. You are advised to store it in ciphertext in the configuration file or an environment variable and decrypt it when needed to ensure security.
linkConfig.securityKey	Yes	String	SK. You are advised to store it in ciphertext in the configuration file or an environment variable and decrypt it when needed to ensure security.

4.4.1.3 Link to HDFS

Description

By creating an HDFS link, you can extract files from or load files to MRS, FusionInsight HD, or Apache Hadoop. Files in CSV, Parquet, and binary formats are supported.

Sample Link

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.hadoopType",
                "value": "FusionInsight HD"
              },
              {
                "name": "linkConfig.host",
```

```

        "value": "10.120.205.143"
    },
    {
        "name": "linkConfig.casPort",
        "value": "20009"
    },
    {
        "name": "linkConfig.port",
        "value": "28443"
    },
    {
        "name": "linkConfig.authType",
        "value": "KERBEROS"
    },
    {
        "name": "linkConfig.user",
        "value": "admin"
    },
    {
        "name": "linkConfig.password",
        "value": "Add password here"
    },
    {
        "name": "linkConfig.runMode",
        "value": "STANDALONE"
    }
  ],
  "name": "linkConfig"
}
],
"name": "hdfslink",
"connector-name": "hdfs-connector"
}
]
}

```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.hadoopType	Yes	Enumeration	Hadoop type. The options are as follows: <ul style="list-style-type: none"> ● MRS: link to HDFS of MRS ● FusionInsight HD: link to HDFS of FusionInsight HD ● Apache Hadoop: link to HDFS of Apache Hadoop
linkConfig.uri	No	String	NameNode URI required for the link to Apache Hadoop. The format is <i>ip:port</i> .
linkConfig.host	No	String	IP address of Manager required for the link to MRS or FusionInsight HD
linkConfig.port	No	String	Port number of Manager required for the link to FusionInsight HD

Parameter	Mandatory	Type	Description
linkConfig.casPort	No	String	Port number of CAS Server that connects to FusionInsight HD required for the link to FusionInsight HD
linkConfig.user	No	String	Username for logging in to Manager. This parameter is not required if the cluster configuration is used.
linkConfig.password	No	String	Password for logging in to Manager. This parameter is not required if the cluster configuration is used.
linkConfig.authType	No	Enumeration	Authentication method. The options are as follows: <ul style="list-style-type: none">• Simple: for non-security mode• Kerberos: for security mode
linkConfig.principal	No	String	Account principal required for Kerberos authentication. You can contact the administrator to obtain the account. Before using the cluster configuration, you must set this parameter in cluster configuration management.
linkConfig.keytab	No	FileContent	Local absolute path of the keytab file required for Kerberos authentication. You can also contact the administrator to obtain the file. Before using the cluster configuration, you must set this parameter in cluster configuration management.

Parameter	Mandatory	Type	Description
linkConfig.run Mode	No	Enumeration	<p>Running mode of the HDFS link. The options are as follows:</p> <ul style="list-style-type: none"> • EMBEDDED: The link instance runs with CDM. This mode delivers better performance. • STANDALONE: The link instance runs in an independent process. If CDM needs to connect to multiple Hadoop data sources (MRS, Hadoop, or CloudTable) with both Kerberos and Simple authentication methods, STANDALONE is used. If STANDALONE is selected, CDM can migrate data between HDFSs of multiple MRS clusters. <p>If a CDM cluster connects to two or more clusters with Kerberos authentication enabled and the same realm, only one cluster can be connected in EMBEDDED mode, and the other clusters must be connected in STANDALONE mode.</p>
linkConfig.properties	No	Map	<p>Properties. You can add configuration properties of the client. Each property must contain a name and a value.</p>

4.4.1.4 Link to HBase

Description

By creating an HBase link, you can extract data from or load data to HBase of MRS, FusionInsight HD, and Apache Hadoop.

Sample Link

```
{
  "links": [
    {
```

```
"link-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "linkConfig.hbaseType",
          "value": "MRS"
        },
        {
          "name": "linkConfig.host",
          "value": "192.168.0.34"
        },
        {
          "name": "linkConfig.user",
          "value": "zephyr"
        },
        {
          "name": "linkConfig.password",
          "value": "Add password here."
        },
        {
          "name": "linkConfig.authType",
          "value": "KERBEROS"
        },
        {
          "name": "linkConfig.serviceType",
          "value": "HDFS"
        },
        {
          "name": "linkConfig.hBaseVersion",
          "value": "HBASE_2_X"
        },
        {
          "name": "linkConfig.runMode",
          "value": "EMBEDDED"
        }
      ],
      "name": "linkConfig"
    }
  ],
  "extended-configs": {
    "name": "linkConfig.extendedFields",
    "value":
"eyJL1c2VDhHVzdGVyQ29uZmlnIjoiZmFsc2UiJCLjBHVzdGVyQ29uZmlnUHLpbmNpcGFsIjoiemVwaHlyIn0="
  },
  "name": "mrs_hbase_dlf",
  "connector-name": "hbase-connector"
}
]
```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.hbaseType	Yes	Enumeration	HBase type. The options are as follows: <ul style="list-style-type: none"> • CloudTable: link to CloudTable Service (CloudTable) • MRS: link to HBase of MRS • FusionInsight HD: link to HBase of FusionInsight HD • Apache Hadoop: link to HBase of Apache Hadoop
linkConfig.uri	No	String	NameNode URI required for the link to Apache Hadoop. The format is <i>ip:port</i> .
linkConfig.host	No	String	IP address of Manager required for the link to MRS or FusionInsight HD
linkConfig.port	No	String	Port number of Manager required for the link to FusionInsight HD
linkConfig.casPort	No	String	Port number of CAS Server that connects to FusionInsight HD required for the link to FusionInsight HD
linkConfig.hbaseVersion	Yes	Enumeration	HBase version <ul style="list-style-type: none"> • HBASE_1_X • HBASE_2_X
linkConfig.user	No	String	Username for logging in to Manager. This parameter is not required if the cluster configuration is used.
linkConfig.password	No	String	Password for logging in to Manager. This parameter is not required if the cluster configuration is used.
linkConfig.authType	No	Enumeration	Authentication method. The options are as follows: <ul style="list-style-type: none"> • Simple: for non-security mode • Kerberos: for security mode

Parameter	Mandatory	Type	Description
linkConfig.principal	No	String	Account principal required for Kerberos authentication. You can contact the administrator to obtain the account.
linkConfig.keytab	No	FileContent	Local absolute path of the keytab file required for Kerberos authentication. You can also contact the administrator to obtain the file.
linkConfig.serviceType	No	String	Service type Currently, HDFS and HBase are supported.
linkConfig.runMode	No	Enumeration	<p>This parameter is used only when the HBase version is HBase_2_X. Possible values are:</p> <ul style="list-style-type: none"> • EMBEDDED: The link instance runs with CDM. This mode delivers better performance. • STANDALONE: The link instance runs in an independent process. If CDM needs to connect to multiple Hadoop data sources (MRS, Hadoop, or CloudTable) with both Kerberos and Simple authentication methods, STANDALONE is used. If STANDALONE is selected, CDM can migrate data between HDFSs of multiple MRS clusters. <p>If a CDM cluster connects to two or more clusters with Kerberos authentication enabled and the same realm, only one cluster can be connected in EMBEDDED mode, and the other clusters must be connected in STANDALONE mode.</p>
linkConfig.properties	No	Map	Properties. You can add configuration properties of the client. Each property must contain a name and a value.

4.4.1.5 Link to CloudTable

Description

By creating a CloudTable link, you can extract data from or load data to CloudTable.

Sample Link

The following is the message body of a sample link. You are advised to store the AK and SK in ciphertext in the configuration file or environment variables and decrypt them when needed to ensure security.

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.hbaseType",
                "value": "CloudTable"
              },
              {
                "name": "linkConfig.zookeeperQuorum",
                "value": "cloudtable-pass-zk2-bae54VGN.cloudtable.com:2181,cloudtable-pass-zk1-
Fu828so2.cloudtable.com:2181"
              },
              {
                "name": "linkConfig.iamAuth",
                "value": "true"
              },
              {
                "name": "linkConfig.cloudtableUser",
                "value": "zane"
              },
              {
                "name": "linkConfig.accessKey",
                "value": "<YOUR AK>"
              },
              {
                "name": "linkConfig.securityKey",
                "value": "<YOUR SK>"
              },
              {
                "name": "linkConfig.runMode",
                "value": "EMBEDDED"
              }
            ],
            "name": "linkConfig"
          }
        ],
        "name": "cloudtablelink",
        "connector-name": "hbase-connector"
      }
    ]
  }
}
```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.hbaseType	Yes	Enumeration	<p>HBase type. The options are as follows:</p> <ul style="list-style-type: none"> • CloudTable: link to CloudTable • MRS: link to MRS • FusionInsight HD: link to FusionInsight HD • Apache Hadoop: link to Apache Hadoop
linkConfig.zookeeperQuorum	Yes	String	ZooKeeper link of CloudTable. This parameter is mandatory for the CloudTable link.
linkConfig.iamAuth	Yes	Boolean	If you choose IAM for identity authentication, enter the username, AK, and SK.
linkConfig.runMode	Yes	Enumeration	<p>Running mode of the HBase link. The options are as follows:</p> <ul style="list-style-type: none"> • EMBEDDED: The link instance runs with CDM. This mode delivers better performance. • STANDALONE: The link instance runs in an independent process. If CDM needs to connect to multiple Hadoop data sources (MRS, Hadoop, or CloudTable) with both Kerberos and Simple authentication methods, STANDALONE is used.
linkConfig.cloudtableUser	Yes	String	Username for accessing the CloudTable cluster
linkConfig.accessKey	Yes	String	AK for accessing the CloudTable cluster. You are advised to store it in ciphertext in the configuration file or an environment variable and decrypt it when needed to ensure security.

Parameter	Mandatory	Type	Description
linkConfig.securityKey	Yes	String	SK for accessing the CloudTable cluster. You are advised to store it in ciphertext in the configuration file or an environment variable and decrypt it when needed to ensure security.

4.4.1.6 Link to Hive

Description

By creating a Hive link, you can extract data from or load data to Hive of MRS.

Sample Link

The following is the message body of a sample link. You are advised to store the AK and SK in ciphertext in the configuration file or environment variables and decrypt them when needed to ensure security.

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.host",
                "value": "10.120.205.230"
              },
              {
                "name": "linkConfig.authType",
                "value": "KERBEROS"
              },
              {
                "name": "linkConfig.user",
                "value": "cdm"
              },
              {
                "name": "linkConfig.password",
                "value": "Add password here"
              }
            ],
            "name": "linkConfig"
          }
        ],
        "name": "hive_link",
        "connector-name": "hive-connector"
      }
    }
  ]
}
```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.host	Yes	String	IP address of MRS Manager
linkConfig.authType	Yes	Enumeration	Authentication method of MRS. The options are as follows: <ul style="list-style-type: none">● SIMPLE: for non-security mode● KERBEROS: for security mode
linkConfig.principal	No	String	Account principal required for Kerberos authentication. You can contact the administrator to obtain the account. Before using the cluster configuration, you must set this parameter in cluster configuration management.
linkConfig.keytab	No	FileContent	Local absolute path of the keytab file required for Kerberos authentication. You can also contact the administrator to obtain the file. Before using the cluster configuration, you must set this parameter in cluster configuration management.
linkConfig.hiveVersion	Yes	Enumeration	Hive version <ul style="list-style-type: none">● HIVE_1_X● HIVE_3_X
linkConfig.user	No	String	Username for logging in to Manager. This parameter is not required if the cluster configuration is used.
linkConfig.password	No	String	Password for logging in to Manager. This parameter is not required if the cluster configuration is used.
linkConfig.uri	No	String	NameNode URI required for the link to Apache Hadoop. The format is <i>ip:port</i> .

Parameter	Mandatory	Type	Description
linkConfig.hiveMsUris	No	String	Hive metadata address for connecting to Apache Hadoop. For details, see the hive.metastore.uris configuration item. Example: thrift://host-192-168-1-212:9083
linkConfig.obsSupport	Yes	Boolean	The server must support OBS storage. When creating a Hive table, you can store the table in OBS.
linkConfig.runMode	Yes	Enumeration	This parameter is used only when the Hive version is HIVE_3_X . Possible values are: <ul style="list-style-type: none"> • EMBEDDED: The link instance runs with CDM. This mode delivers better performance. • STANDALONE: The link instance runs in an independent process. If you want to connect CDM to multiple Hadoop data sources (MRS, Hadoop, or CloudTable), and both KERBEROS and SIMPLE authentication modes are available, you must select STANDALONE for this parameter. Note: The STANDALONE mode is used to solve the version conflict problem. If the connector versions of the source and destination ends of the same link are different, a JAR file conflict occurs. In this case, you need to place the source or destination end in the STANDALONE process to prevent the migration failure caused by the conflict.
linkConfig.accessKey	No	String	AK. This parameter is mandatory when OBS is supported. You are advised to store it in ciphertext in the configuration file or an environment variable and decrypt it when needed to ensure security.

Parameter	Mandatory	Type	Description
linkConfig.securityKey	No	String	SK. This parameter is mandatory when OBS is supported. You are advised to store it in ciphertext in the configuration file or an environment variable and decrypt it when needed to ensure security.
linkConfig.properties	No	Map	Properties. You can add configuration properties of the client. Each property must contain a name and a value.

4.4.1.7 Link to an FTP or SFTP Server

Description

By creating an FTP or SFTP link, you are able to extract files from or load files to the FTP or SFTP server. Files in CSV, JSON, and binary format are supported.

Sample Link

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.server",
                "value": "10.120.85.167"
              },
              {
                "name": "linkConfig.port",
                "value": "22"
              },
              {
                "name": "linkConfig.username",
                "value": "username"
              },
              {
                "name": "linkConfig.password",
                "value": "Add password here"
              }
            ],
            "name": "linkConfig"
          }
        ],
        "name": "sftp_link",
        "connector-name": "sftp-connector"
      }
    ]
  }
}
```

Link Parameters

Parameters for creating the FTP or SFTP link are the same.

Parameter	Mandatory	Type	Description
linkConfig.server	Yes	String	IP address of the FTP or SFTP server
linkConfig.port	Yes	String	Port number of the FTP or SFTP server
linkConfig.username	Yes	String	Username for logging in to the FTP or SFTP server
linkConfig.password	Yes	String	Password for logging in to the FTP or SFTP server

4.4.1.8 Link to MongoDB

Description

By creating a Link to MongoDB, you can extract data from or load data to MongoDB.

Sample Link

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.serverList",
                "value": "10.120.84.149:27017"
              },
              {
                "name": "linkConfig.database",
                "value": "DB_name"
              },
              {
                "name": "linkConfig.userName",
                "value": "username"
              },
              {
                "name": "linkConfig.password",
                "value": "Add password here"
              }
            ]
          },
          {
            "name": "linkConfig"
          }
        ]
      },
      "name": "mongo_link",
      "connector-name": "mongodb-connector"
    }
  ]
}
```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.serverList	Yes	String	Server IP address list in <i>host1:port1;host2:port2</i> format
linkConfig.database	Yes	String	Name of the MongoDB database
linkConfig.userName	Yes	String	Username for logging in to the MongoDB server
linkConfig.password	Yes	String	Password for logging in to the MongoDB server

4.4.1.9 Link to Redis

Description

By creating a Redis link, you can extract data from or load data to the Redis server.

Sample Link

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.deploymentMode",
                "value": "Cluster"
              },
              {
                "name": "linkConfig.serverlist",
                "value": "10.120.84.149:7300"
              },
              {
                "name": "linkConfig.password",
                "value": "Add password here"
              },
              {
                "name": "linkConfig.dbIndex",
                "value": "0"
              }
            ],
            "name": "linkConfig"
          }
        ],
        "name": "linkConfig"
      }
    },
    {
      "name": "redis_link",
      "connector-name": "redis-connector"
    }
  ]
}
```


Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.deploymentMode	Yes	Enumeration	Redis deployment mode. The options are as follows: <ul style="list-style-type: none">• Single: single-node deployment• Cluster: cluster deployment
linkConfig.serverlist	Yes	String	Server IP address list in <i>host1:port1;host2:port2</i> format
linkConfig.password	Yes	String	Password for logging in to the Redis server
linkConfig.databaseIndex	Yes	String	Redis database index

4.4.1.10 Link to Kafka

Description

By creating a Kafka link, you are able to access open source Kafka and migrate data from Kafka to other data sources as required. Currently, only data export from Kafka is supported.

Sample Link

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.hadoopType",
                "value": "MRS"
              },
              {
                "name": "linkConfig.host",
                "value": "192.168.1.147"
              },
              {
                "name": "linkConfig.user",
                "value": "liuhuan1"
              },
              {
                "name": "linkConfig.password",
                "value": "Add password here."
              },
              {
                "name": "linkConfig.authType",
                "value": "KERBEROS"
              }
            ]
          },
          {
            "name": "linkConfig"
          }
        ]
      }
    }
  ]
}
```

```

    ],
    "extended-configs": {
      "name": "linkConfig.extendedFields",
      "value": "e30="
    }
  },
  "name": "mrs_kafka_link",
  "connector-name": "kafka-connector"
}
]
}

```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.hadoopType	Yes	Enumeration	Hadoop type. The options are as follows: <ul style="list-style-type: none"> ● MRS: link to Kafka of MRS ● Apache Kafka: link to Kafka of Apache
linkConfig.brokerList	Yes	String	This parameter is mandatory for Apache Kafka links. Kafka broker list in <i>host1:port1,host2:port2</i> format
linkConfig.host	Yes	String	Floating IP address of MRS Manager. Click Select next to the Manager IP text box to select an MRS cluster. CDM automatically fills in the authentication information.
linkConfig.userName	Yes	String	Username used for logging in to MRS Manager.
linkConfig.password	Yes	String	Password used for logging in to MRS Manager.
linkConfig.authType	Yes	Enumeration	Authentication method. The options are as follows: <ul style="list-style-type: none"> ● Simple: for non-security mode ● Kerberos: for security mode
linkConfig.properties	No	Map	Properties. You can add configuration properties of the client. Each property must contain a name and a value.

4.4.1.11 Link to DIS

Description

By creating a DIS link, you can access DIS and migrate data from DIS to other data sources as required.

Sample Link

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.region",
                "value": "Region"
              },
              {
                "name": "linkConfig.endpoint",
                "value": "https://dis.ap-southeast-1.myhuaweiclouds.com"
              },
              {
                "name": "linkConfig.ak",
                "value": "RSO6TTEZMJ6TTFBBAACE"
              },
              {
                "name": "linkConfig.sk",
                "value": "Add password here"
              },
              {
                "name": "linkConfig.projectId",
                "value": "11d4d5af17c84660bc90b6631327d7c7"
              }
            ],
            "name": "linkConfig"
          }
        ],
        "name": "dis_link",
        "connector-name": "dis-connector"
      }
    ]
  }
}
```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.region	Yes	String	Region where DIS resides
linkConfig.endpoint	Yes	String	URL of DIS in the format of <code>https://Endpoint</code>
linkConfig.ak	Yes	String	AK for accessing the DIS server
linkConfig.sk	Yes	String	SK for accessing the DIS server

Parameter	Mandatory	Type	Description
linkConfig.projectId	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

4.4.1.12 Link to Elasticsearch/Cloud Search Service

Description

By creating an Elasticsearch link, you can extract data from or load data to the Elasticsearch server or Cloud Search Service.

Sample Link

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.host",
                "value": "192.168.0.50:9200;192.168.0.62:9200"
              },
              {
                "name": "linkConfig.safemode",
                "value": "true"
              },
              {
                "name": "linkConfig.user",
                "value": "admin"
              },
              {
                "name": "linkConfig.password",
                "value": "Add password here."
              },
              {
                "name": "linkConfig.linkType",
                "value": "CSS"
              }
            ]
          },
          {
            "name": "linkConfig"
          }
        ],
        "extended-configs": {
          "name": "linkConfig.extendedFields",
          "value": "eyJodHRwcz0FjY2VzcyI6InRydWUifQ=="
        }
      },
      "name": "css-cdm-autotest-nodel",
      "connector-name": "elasticsearch-connector"
    }
  ]
}
```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.host	Yes	String	List of one or more Elasticsearch servers, including the port number. The format is <i>ip:port</i> . Use semicolons (;) to separate multiple IP addresses. For example, 192.168.0.1:9200;192.168.0.2:9200 .
linkConfig.securitymode	No	Boolean	If you select the security authentication mode, you must enter the username and password, and choose whether to enable HTTPS access.
linkConfig.username	No	String	For Elasticsearch that supports username and password authentication, configure the username and password when creating a link.
linkConfig.password	No	String	Password for accessing the Elasticsearch server
linkConfig.linkType	Yes	String	Link type, which is used to distinguish the Elasticsearch link from the Cloud Search Service link

4.4.1.13 Link to DLI

Description

By creating a DLI link, you can import data to DLI. Currently, you cannot export data from DLI using CDM.

Sample Link

```
{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.ak",
                "value": "GRC2WR0IDC6NGROYLWU2"
              },
              {
                "name": "linkConfig.sk",
                "value": "Add password here"
              }
            ]
          }
        ]
      }
    }
  ]
}
```

```

    },
    {
      "name": "linkConfig.region",
      "value": "ap-southeast-1"
    },
    {
      "name": "linkConfig.projectId",
      "value": "c48475ce8e174a7a9f775706a3d5ebe2"
    }
  ],
  "name": "linkConfig"
}
]
},
"name": "dli",
"connector-name": "dli-connector"
}
]
}

```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.ak	Yes	String	AK for accessing the DLI database
linkConfig.sk	Yes	String	SK for accessing the DLI database
linkConfig.region	Yes	String	Region where DLI resides
linkConfig.projectId	Yes	String	Project ID of the DLI service

4.4.1.14 Link to DMS Kafka

Description

By creating a DMS Kafka link, you can connect to Kafka Basic or Kafka Platinum on DMS. Currently, you can only export data from DMS Kafka to Cloud Search Service.

Sample Link

```

{
  "links": [
    {
      "link-config-values": {
        "configs": [
          {
            "inputs": [
              {
                "name": "linkConfig.kafkaType",
                "value": "Platinum"
              },
              {
                "name": "linkConfig.brokerList",
                "value": "100.85.121.112:9094,100.85.220.134:9094,100.85.127.232:9094"
              }
            ]
          }
        ]
      }
    }
  ]
}

```

```

    },
    {
      "name": "linkConfig.isPlatinumInstance",
      "value": "false"
    }
  ],
  "name": "linkConfig"
}
],
"extended-configs": {
  "name": "linkConfig.extendedFields",
  "value": "e30="
}
},
"name": "dms_kafka",
"connector-name": "dms-kafka-connector"
}
]
}

```

Link Parameters

Parameter	Mandatory	Type	Description
linkConfig.kafkaType	Yes	Enumeration	DMS Kafka edition. Currently, only the Platinum edition is available. <ul style="list-style-type: none"> • Basic: DMS Kafka Basic • Platinum: DMS Kafka Platinum
linkConfig.brokerList	Yes	String	The DMS endpoint is in host1:port1,host2:port2 format.
linkConfig.isPlatinumInstance	Yes	Boolean	Whether to enable SSL authentication when a client connects to a Kafka premium instance. If Kafka SASL_SSL is enabled, data will be encrypted before transmission for higher security, but performance will suffer.
linkConfig.user	No	String	Username for connecting to DMS Kafka. This parameter is displayed when Kafka SASL_SSL is enabled.

Parameter	Mandatory	Type	Description
linkConfig.password	No	String	Password for connecting to DMS Kafka. This parameter is displayed when Kafka SASL_SSL is enabled.

4.4.2 Source Job Parameters

4.4.2.1 From a Relational Database

Sample JSON File

```
"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.useSql",
          "value": "false"
        },
        {
          "name": "fromJobConfig.schemaName",
          "value": "rf_database"
        },
        {
          "name": "fromJobConfig.tableName",
          "value": "rf_from"
        },
        {
          "name": "fromJobConfig.columnList",
          "value": "AA&BB"
        },
        {
          "name": "fromJobConfig.incrMigration",
          "value": "false"
        }
      ],
      "name": "fromJobConfig"
    }
  ]
}
```

Parameter Description

Parameter	Mandatory	Type	Description
fromJobConfig.useSql	Yes	Boolean	Whether to use the customized SQL statement to export data when exporting relational database data
fromJobConfig.sql	No	String	Customized SQL statement. CDM executes the SQL statement to export data.

Parameter	Mandatory	Type	Description
fromJobConfig.schemaName	Yes	String	<p>Database mode or tablespace. For example, public.</p> <p>NOTE The parameter value can contain wildcard characters (*), which is used to export all databases whose names start with a certain prefix or end with a certain suffix. The examples are as follows:</p> <ul style="list-style-type: none"> • SCHEMA* indicates that all databases whose names starting with SCHEMA are exported. • *SCHEMA indicates that all databases whose names ending with SCHEMA are exported. • *SCHEMA* indicates that all databases whose names containing SCHEMA are exported.
fromJobConfig.tableName	Yes	String	<p>Table name. For example, TBL_EXAMPLE.</p> <p>NOTE The table name can contain wildcard characters (*), which is used to export all tables whose names start with a certain prefix or end with a certain suffix. The number and types of fields in the tables must be the same. The examples are as follows:</p> <ul style="list-style-type: none"> • table* indicates that all tables whose names starting with table are exported. • *table indicates that all tables whose names ending with table are exported. • *table* indicates that all tables whose names containing table are exported.
fromJobConfig.whereClause	No	String	<p>WHERE clause used to specify the data to be extracted. If no WHERE clause is configured, the entire table will be extracted. For example, age > 18 and age <= 60.</p>
fromJobConfig.columnList	No	String	<p>List of fields to be extracted. Use & to separate field names. For example, id&gid&name.</p>

Parameter	Mandatory	Type	Description
fromJobConfig.partitionColumn	No	String	Partition field to be extracted, by which a job is split in multiple sub-jobs executed concurrently. For example, id .
fromJobConfig.usePartition	No	Boolean	When data is exported from the Oracle database, data can be extracted from each partition in a partitioned table. When this function is enabled, you can use the fromJobConfig.partitionList parameter to specify the partitions in the Oracle table. This function does not support non-partitioned tables.
fromJobConfig.partitionList	No	String	Oracle table partitions to be migrated. Separate multiple partitions with ampersands (&). If you do not set this parameter, all partitions will be migrated.

4.4.2.2 From Object Storage

Sample JSON File

```
"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.bucketName",
          "value": "cdm-est"
        },
        {
          "name": "fromJobConfig.inputDirectory",
          "value": "/obsfrom/varchar.txt"
        },
        {
          "name": "fromJobConfig.inputFormat",
          "value": "CSV_FILE"
        },
        {
          "name": "fromJobConfig.columnList",
          "value": "1&2&3"
        },
        {
          "name": "fromJobConfig.fieldSeparator",
          "value": ","
        },
        {
          "name": "fromJobConfig.quoteChar",
          "value": "false"
        }
      ]
    }
  ]
}
```

```

    "name": "fromJobConfig.regexSeparator",
    "value": "false"
  },
  {
    "name": "fromJobConfig.firstRowAsHeader",
    "value": "false"
  },
  {
    "name": "fromJobConfig.encodeType",
    "value": "UTF-8"
  },
  {
    "name": "fromJobConfig.fromCompression",
    "value": "NONE"
  },
  {
    "name": "fromJobConfig.splitType",
    "value": "FILE"
  }
],
"name": "fromJobConfig"
}
]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
fromJobConfig.bucketName	Yes	String	Bucket name
fromJobConfig.inputDirectory	Yes	String	Path for storing files to be extracted. You can enter a maximum of 50 file paths, which are separated by vertical bars (). You can also customize the separators. For example, FROM/example.csv FROM/b.txt .

Parameter	Mandatory	Type	Description
fromJobConfig.inputFormat	Yes	Enumeration	<p>File format required for data transmission. Currently, the following file formats are supported:</p> <ul style="list-style-type: none"> • CSV_FILE: CSV format, used to migrate files to data tables • JSON_FILE: JSON format, used to migrate files to data tables • BINARY_FILE: Files (even not in binary format) will be directly transferred without resolution. It is applicable to file copy. <p>If you select BINARY_FILE, the migration destination must also be a file system.</p>
fromJobConfig.lineSeparator	No	String	<p>Line feed character in a file. By default, the system automatically identifies <code>\n</code>, <code>\r</code>, and <code>\r\n</code>. You can configure special characters. For spaces and carriage returns, encode them with URL. You can also configure them by editing the job JSON, in which case URL encoding is not required.</p>
fromJobConfig.columnList	No	String	<p>Numbers of columns to be extracted. Use & to separate column numbers in ascending order. For example, 1&3&5.</p>
fromJobConfig.regexSeparator	No	Boolean	<p>Whether to use the regular expression to separate fields. This parameter is valid only when the file format is CSV_FILE.</p>
fromJobConfig.regex	No	String	<p>Regular expression. This parameter is valid only when the regular expression is used to separate fields.</p>
fromJobConfig.fieldSeparator	No	String	<p>Field delimiter. This parameter is valid only when the file format is CSV_FILE. The default value is <code>,</code>.</p>

Parameter	Mandatory	Type	Description
fromJobConfig.quoteChar	No	Boolean	Whether to use the encircling symbol. If this parameter is set to true , the field delimiters in the encircling symbol are regarded as a part of the string value. Currently, the default encircling symbol of CDM is double quotation mark (").
fromJobConfig.firstRowAsHeader	No	Boolean	Whether to regard the first line as the heading line. This parameter is valid only when the file format is CSV_FILE . When you migrate a CSV file to a table, CDM writes all data to the table by default. If this parameter is set to true , CDM uses the first line of the CSV file as the heading line and does not write the line to the destination table.
fromJobConfig.fromCompression	No	Enumeration	Compression format. This parameter is valid only when the file format is CSV_FILE or JSON . The options are as follows: <ul style="list-style-type: none">• NONE: Files in all formats are transferred.• GZIP: Files in gzip format are transferred.• ZIP: Files in Zip format are transferred.
fromJobConfig.jsonReferenceNode	No	String	Reference node. This parameter is valid when the file format is JSON_FILE . Resolve data on the JSON node. If the data corresponding to the node is a JSON array, the system extracts data from the array in the same mode. Nested JSON nodes are separated by periods (.). For example, data.list .
fromJobConfig.encodingType	No	String	Encoding type. For example, UTF_8 or GBK .

Parameter	Mandatory	Type	Description
fromJobConfig.useMarkerFile	No	Boolean	Whether to start a job by a marker file. A job is started only when a marker file for starting the job exists in the source path. Otherwise, the job will be suspended for a period of time specified by fromJobConfig.waitTime .
fromJobConfig.markerFile	No	String	Name of the marker file for starting a job. After a marker file is specified, the task is executed only when the file exists in the source path. If the marker file is not specified, this function is disabled by default. For example, ok.txt .
fromJobConfig.waitTime	No	String	Period of waiting for a marker file. If you set Start Job by Marker File to Yes but no marker file exists in the source path, the job fails upon suspension timeout. If you set this parameter to 0 and no marker file exists in the source path, the job will fail immediately. Unit: second
fromJobConfig.filterType	No	Enumeration	Filter type. Possible values are as follows: <ul style="list-style-type: none"> • WILDCARD: Enter a wildcard character to filter paths or files. CDM will migrate the paths or files that meet the filter condition. • TIME: Specify a time filter. CDM will migrate the files modified after the specified time point.
fromJobConfig.pathFilter	No	String	Path filter, which is configured when the filter type is WILDCARD . It is used to filter the file directories. For example, *input .

Parameter	Mandatory	Type	Description
fromJobConfig.fileFilter	No	String	File filter, which is configured when the filter type is WILDCARD . It is used to filter files in the specified directory. Use commas (,) to separate multiple files. For example, *.csv*.txt .
fromJobConfig.startTime	No	String	If you set Filter Type to Time Filter , and specify a point in time for this parameter, only the files modified at or after the specified time are transferred. The time format must be <i>yyyy-MM-dd HH:mm:ss</i> . This parameter can be set to a macro variable of date and time. For example, \${timestamp(dateformat(yyy y-MM-dd HH:mm:ss,-90,DAY))} indicates that only files generated within the latest 90 days are migrated.
fromJobConfig.endTime	No	String	If you set Filter Type to Time Filter , and specify a point in time for this parameter, only the files modified before the specified time are transferred. The time format must be <i>yyyy-MM-dd HH:mm:ss</i> . This parameter can be set to a macro variable of date and time. For example, \${timestamp(dateformat(yyy y-MM-dd HH:mm:ss))} indicates that only the files whose modification time is earlier than the current time are migrated.
fromJobConfig.fileSeparator	No	String	File separator. If you enter multiple file paths in fromJobConfig.inputDirectory , CDM uses the file separator to separate files. The default value is .

Parameter	Mandatory	Type	Description
fromJobConfig.md5FileSuffix	No	String	Check whether the files extracted by CDM are consistent with those in the migration source.

4.4.2.3 From HDFS

Sample JSON File

```
"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.inputDirectory",
          "value": "/hdfsfrom/from_hdfs_est.csv"
        },
        {
          "name": "fromJobConfig.inputFormat",
          "value": "CSV_FILE"
        },
        {
          "name": "fromJobConfig.columnList",
          "value": "1"
        },
        {
          "name": "fromJobConfig.fieldSeparator",
          "value": ","
        },
        {
          "name": "fromJobConfig.quoteChar",
          "value": "false"
        },
        {
          "name": "fromJobConfig.regexSeparator",
          "value": "false"
        },
        {
          "name": "fromJobConfig.firstRowAsHeader",
          "value": "false"
        },
        {
          "name": "fromJobConfig.encodeType",
          "value": "UTF-8"
        },
        {
          "name": "fromJobConfig.fromCompression",
          "value": "NONE"
        },
        {
          "name": "fromJobConfig.compressedFileSuffix",
          "value": ""
        },
        {
          "name": "fromJobConfig.splitType",
          "value": "FILE"
        },
        {
          "name": "fromJobConfig.useMarkerFile",
          "value": "false"
        }
      ]
    }
  ]
}
```



```

    "name": "fromJobConfig.fileSeparator",
    "value": "|"
  },
  {
    "name": "fromJobConfig.filterType",
    "value": "NONE"
  }
],
"name": "fromJobConfig"
}
]
}

```

Parameter Description

- HDFS job parameter description

Parameter	Mandatory	Type	Description
fromJobConfig.inputDirectory	Yes	String	Path for storing data to be extracted. For example, / data_dir .
fromJobConfig.inputFormat	Yes	Enumeration	File format required for data transmission. Currently, the following file formats are supported: <ul style="list-style-type: none"> • CSV_FILE: CSV format • PARQUET_FILE: Parquet format • BINARY_FILE: binary format If you select BINARY_FILE , the migration destination must also be a file system.
fromJobConfig.columnList	No	String	Numbers of columns to be extracted. Use & to separate column numbers in ascending order. For example, 1&3&5 .
fromJobConfig.lineSeparator	No	String	Line feed character in a file. By default, the system automatically identifies \n , \r , and \r\n . You can configure special characters. For spaces and carriage returns, encode them with URL. You can also configure them by editing the job JSON, in which case URL encoding is not required.

Parameter	Mandatory	Type	Description
fromJobConfig.fieldSeparator	No	String	Field delimiter. This parameter is valid only when the file format is CSV_FILE . The default value is ,.
fromJobConfig.quoteChar	No	Boolean	Whether to use the encircling symbol. If this parameter is set to true , the field delimiters in the encircling symbol are regarded as a part of the string value. Currently, the default encircling symbol of CDM is double quotation mark (").
fromJobConfig.regexSeparator	No	Boolean	Whether to use the regular expression to separate fields. This parameter is valid only when the file format is CSV_FILE .
fromJobConfig.encodeType	No	String	Encoding type. For example, UTF_8 or GBK .
fromJobConfig.firstRowAsHeader	No	Boolean	Whether to regard the first line as the heading line. This parameter is valid only when the file format is CSV_FILE . When you migrate a CSV file to a table, CDM writes all data to the table by default. If this parameter is set to true , CDM uses the first line of the CSV file as the heading line and does not write the line to the destination table.
fromJobConfig.fromCompression	No	Enumeration	Compression format. Only the source files in specified compression format are transferred. NONE indicates files in all formats are transferred.

Parameter	Mandatory	Type	Description
fromJobConfig.compressedFileSuffix	No	String	Extension of the files to be decompressed. The decompression operation is performed only when the file name extension is used in a batch of files. Otherwise, files are transferred in the original format. If you enter * or leave the parameter blank, all files are decompressed.
fromJobConfig.splitType	No	Enumeration	<p>Whether to split files by file or size. If HDFS files are split, each shard is regarded as a file.</p> <ul style="list-style-type: none"> • FILE: Split files by file quantity. If there are 10 files and throttlingConfig.numExtractors is set to 5, each shard consists of two files. • SIZE: Split files by file size. Files will not be split for balance. Suppose there are 10 files, among which nine are 10 MB and one is 200 MB in size. If throttlingConfig.numExtractors is set to 2, two shards will be created, one for processing the nine 10 MB files, the other for processing the 200 MB file.
fromJobConfig.useMarkerFile	No	Boolean	Whether to start a job by a marker file. A job is started only when a marker file for starting the job exists in the source path. Otherwise, the job will be suspended for a period of time specified by fromJobConfig.waitTime .

Parameter	Mandatory	Type	Description
fromJobConfig.markerFile	No	String	Name of the marker file for starting a job. After a marker file is specified, the task is executed only when the file exists in the source path. If the marker file is not specified, this function is disabled by default. For example, ok.txt .
fromJobConfig.fileSeparator	No	String	File separator. If you enter multiple file paths in fromJobConfig.inputDirectory , CDM uses the file separator to separate files. The default value is .
fromJobConfig.filterType	No	Enumeration	Filter type. Possible values are as follows: <ul style="list-style-type: none"> • WILDCARD: Enter a wildcard character to filter paths or files. CDM will migrate the paths or files that meet the filter condition. • TIME: Specify a time filter. CDM will migrate the files modified after the specified time point.
fromJobConfig.pathFilter	No	String	Path filter, which is configured when the filter type is WILDCARD . It is used to filter the file directories. For example, *input .
fromJobConfig.fileFilter	No	String	File filter, which is configured when the filter type is WILDCARD . It is used to filter files in the specified directory. Use commas (,) to separate multiple files. For example, *.csv,*.txt .

Parameter	Mandatory	Type	Description
fromJobConfig. startTime	No	String	<p>If you set Filter Type to Time Filter, and specify a point in time for this parameter, only the files modified at or after the specified time are transferred. The time format must be <i>yyyy-MM-dd HH:mm:ss</i>.</p> <p>This parameter can be set to a macro variable of date and time. For example, <code>\${timestamp(dateformat(yy yy-MM-dd HH:mm:ss,-90,DAY))}</code> indicates that only files generated within the latest 90 days are migrated.</p>
fromJobConfig. endTime	No	String	<p>If you set Filter Type to Time Filter, and specify a point in time for this parameter, only the files modified before the specified time are transferred. The time format must be <i>yyyy-MM-dd HH:mm:ss</i>.</p> <p>This parameter can be set to a macro variable of date and time. For example, <code>\${timestamp(dateformat(yy yy-MM-dd HH:mm:ss))}</code> indicates that only the files whose modification time is earlier than the current time are migrated.</p>
fromJobConfig. createSnapshot	No	Boolean	<p>If this parameter is set to true, CDM creates a snapshot for the source directory to be migrated (the snapshot cannot be created for a single file) before it reads files from HDFS. Then CDM migrates the data in the snapshot.</p> <p>Only the HDFS administrator can create a snapshot. After the CDM job is completed, the snapshot is deleted.</p>

Parameter	Mandatory	Type	Description
fromJobConfig.formats	No	Data structure	Time format. This parameter is mandatory only when fromJobConfig.inputFormat is set to CSV_FILE and the time field exists in the file. For details, see Description of the fromJobConfig.formats parameter .
fromJobConfig.decryption	No	Enumeration	This parameter is available only when fromJobConfig.inputFormat is set to BINARY_FILE . It specifies whether to decrypt the encrypted file before export, and the decryption method. The options are as follows: <ul style="list-style-type: none"> • NONE: Do not decrypt but directly export the file. • AES-256-GCM: Use the AES-256-GCM (NoPadding) algorithm to decrypt the file and then export the file.
fromJobConfig.dek	No	String	Data decryption key. The key is a string of 64-bit hexadecimal numbers and must be the same as the data encryption key toJobConfig.dek configured during encryption. If the encryption and decryption keys are inconsistent, the system does not report an exception, but the decrypted data is incorrect.

Parameter	Mandatory	Type	Description
fromJobConfig.iv	No	String	Initialization vector required for decryption. The initialization vector is a string of 32-bit hexadecimal numbers and must be the same as the initialization vector toJobConfig.iv configured during encryption. If the encryption and decryption keys are inconsistent, the system does not report an exception, but the decrypted data is incorrect.

- Description of the **fromJobConfig.formats** parameter

Parameter	Mandatory	Type	Description
name	Yes	String	Column number. For example, 1 .
value	Yes	String	Time format. For example, <i>yyyy-MM-dd</i> .

4.4.2.4 From Hive

Sample JSON File

```
"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.hive",
          "value": "hive"
        },
        {
          "name": "fromJobConfig.database",
          "value": "rf_database"
        },
        {
          "name": "fromJobConfig.table",
          "value": "rf_from"
        },
        {
          "name": "fromJobConfig.columnList",
          "value": "tiny&small&int&integer&bigint&float&double&timestamp&char&varchar&text"
        }
      ],
      "name": "fromJobConfig"
    }
  ]
}
```

Parameter Description

Parameter	Mandatory	Type	Description
fromJobConfig.hive	No	String	Data source to be extracted. If the data source is Hive, set this parameter to hive .
fromJobConfig.database	No	String	Database from which data is extracted. For example, default .
fromJobConfig.table	Yes	String	Name of the table from which data is extracted. For example, cdm .
fromJobConfig.columnList	No	String	Numbers of columns to be extracted. Use & to separate column numbers in ascending order. For example, 1&3&5 .

4.4.2.5 From HBase/CloudTable

Sample JSON File

```

"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.table",
          "value": "rf_from"
        },
        {
          "name": "fromJobConfig.columnFamilies",
          "value": "rowkey&f"
        },
        {
          "name": "fromJobConfig.columns",
          "value": "rowkey:rowkey&f:_small"
        },
        {
          "name": "fromJobConfig.formats",
          "value": {
            "f_date": "yyyy-MM-dd",
            "f_timestamp": "yyyy-MM-dd HH:mm:ss"
          }
        }
      ],
      "name": "fromJobConfig"
    }
  ]
}

```

Parameter Description

- HBase/CloudTable job parameter description

Parameter	Mandatory	Type	Description
fromJobConfig.table	Yes	String	Name of the table from which data is extracted. For example, cdm .
fromJobConfig.columnFamilies	No	String	Column family to which the data to be extracted belongs
fromJobConfig.columns	No	String	Columns to be extracted. Use & to separate column numbers and : to separate column families and columns. For example, cf1:c1&cf2:c2 .
fromJobConfig.isSplit	No	Boolean	Whether to split the rowkey. For example, true .
fromJobConfig.delimiter	No	String	Delimiter used for splitting rowkeys. If this parameter is not set, row keys will not be split. For example, vertical bars ().
fromJobConfig.startTime	No	String	Minimum timestamp of the time range (the time point is included). The format is <i>yyyy-MM-dd hh:mm:ss</i> . Only the data created at this point in time and later is extracted.
fromJobConfig.endTime	No	String	Maximum timestamp of the time range (the time point is not included). The format is <i>yyyy-MM-dd hh:mm:ss</i> . Only the data created before this point in time is extracted.
fromJobConfig.formats	No	Data structure	Time format. For details, see Description of the fromJobConfig.formats parameter .

- Description of the **fromJobConfig.formats** parameter

Parameter	Mandatory	Type	Description
name	Yes	String	Column number. For example, 1 .
value	Yes	String	Time format. For example, <i>yyyy-MM-dd</i> .

4.4.2.6 From FTP/SFTP

Sample JSON File

```
"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.inputDirectory",
          "value": "/sftpfrom/from_sftp.csv"
        },
        {
          "name": "fromJobConfig.inputFormat",
          "value": "CSV_FILE"
        },
        {
          "name": "fromJobConfig.columnList",
          "value": "1&2&3&4&5&6&7&8&9&10&11&12"
        },
        {
          "name": "fromJobConfig.fieldSeparator",
          "value": ","
        },
        {
          "name": "fromJobConfig.regexSeparator",
          "value": "false"
        },
        {
          "name": "fromJobConfig.firstRowAsHeader",
          "value": "false"
        },
        {
          "name": "fromJobConfig.encodeType",
          "value": "UTF-8"
        },
        {
          "name": "fromJobConfig.fromCompression",
          "value": "NONE"
        },
        {
          "name": "fromJobConfig.splitType",
          "value": "FILE"
        }
      ],
      "name": "fromJobConfig"
    }
  ]
}
```

Parameter Description

Source link job parameters of FTP and SFTP are the same. [Table 4-204](#) describes the parameters.

Table 4-204 Source link job parameters of file systems

Parameter	Mandatory	Type	Description
fromJobConfig.inputDirectory	Yes	String	Path for storing files to be extracted. You can enter a maximum of 50 file paths, which are separated by vertical bars (). You can also customize the separators. For example, FROM/example.csv FROM/b.txt .
fromJobConfig.inputFormat	Yes	Enumeration	File format required for data transmission. Currently, the following file formats are supported: <ul style="list-style-type: none"> • CSV_FILE: CSV format, used to migrate files to data tables • JSON_FILE: JSON format, used to migrate files to data tables • BINARY_FILE: Files (even not in binary format) will be directly transferred without resolution. It is applicable to file copy. If you select BINARY_FILE , the migration destination must also be a file system.
fromJobConfig.lineSeparator	No	String	Line feed character in a file. By default, the system automatically identifies <code>\n</code> , <code>\r</code> , and <code>\r\n</code> . You can configure special characters. For spaces and carriage returns, encode them with URL. You can also configure them by editing the job JSON, in which case URL encoding is not required.
fromJobConfig.columnList	No	String	Numbers of columns to be extracted. Use & to separate column numbers in ascending order. For example, 1&3&5 .
fromJobConfig.fieldSeparator	No	String	Field delimiter. This parameter is valid only when the file format is CSV_FILE . The default value is <code>,</code> .

Parameter	Mandatory	Type	Description
fromJobConfig.quoteChar	No	Boolean	Whether to use the encircling symbol. If this parameter is set to true , the field delimiters in the encircling symbol are regarded as a part of the string value. Currently, the default encircling symbol of CDM is double quotation mark (").
fromJobConfig.regexSeparator	No	Boolean	Whether to use the regular expression to separate fields. This parameter is valid only when the file format is CSV_FILE .
fromJobConfig.regex	No	String	Regular expression. This parameter is valid only when the regular expression is used to separate fields.
fromJobConfig.firstRowAsHeader	No	Boolean	Whether to regard the first line as the heading line. This parameter is valid only when the file format is CSV_FILE . When you migrate a CSV file to a table, CDM writes all data to the table by default. If this parameter is set to true , CDM uses the first line of the CSV file as the heading line and does not write the line to the destination table.
fromJobConfig.fromCompression	No	Enumeration	Compression format. This parameter is valid only when the file format is CSV_FILE or JSON . The options are as follows: <ul style="list-style-type: none"> • NONE: Files in all formats are transferred. • GZIP: Files in gzip format are transferred. • ZIP: Files in Zip format are transferred.

Parameter	Mandatory	Type	Description
fromJobConfig.splitType	No	Enumeration	<p>Whether to split files by file or size.</p> <ul style="list-style-type: none"> • FILE: Split files by file quantity. If there are 10 files and throttlingConfig.numExtractors is set to 5, each shard consists of two files. • SIZE: Split files by file size. Files will not be split for balance. Suppose there are 10 files, among which nine are 10 MB and one is 200 MB in size. If throttlingConfig.numExtractors is set to 2, two shards will be created, one for processing the nine 10 MB files, the other for processing the 200 MB file.
fromJobConfig.jsonReferenceNode	No	String	<p>Reference node. This parameter is valid when the file format is JSON_FILE. Resolve data on the JSON node. If the data corresponding to the node is a JSON array, the system extracts data from the array in the same mode. Nested JSON nodes are separated by periods (.). For example, data.list.</p>
fromJobConfig.encodingType	No	String	<p>Encoding type. For example, UTF_8 or GBK.</p>
fromJobConfig.useMarkerFile	No	Boolean	<p>Whether to start a job by a marker file. A job is started only when a marker file for starting the job exists in the source path. Otherwise, the job will be suspended for a period of time specified by fromJobConfig.waitTime.</p>

Parameter	Mandatory	Type	Description
fromJobConfig.markerFile	No	String	Name of the marker file for starting a job. After a marker file is specified, the task is executed only when the file exists in the source path. If the marker file is not specified, this function is disabled by default. For example, ok.txt .
fromJobConfig.waitTime	No	String	Period of waiting for a marker file. If you set Start Job by Marker File to Yes but no marker file exists in the source path, the job fails upon suspension timeout. If you set this parameter to 0 and no marker file exists in the source path, the job will fail immediately. Unit: second
fromJobConfig.filterType	No	Enumeration	Filter type. Possible values are as follows: <ul style="list-style-type: none"> • WILDCARD: Enter a wildcard character to filter paths or files. CDM will migrate the paths or files that meet the filter condition. • TIME: Specify a time filter. CDM will migrate the files modified after the specified time point.
fromJobConfig.pathFilter	No	String	Path filter, which is configured when the filter type is WILDCARD . It is used to filter the file directories. For example, *input .
fromJobConfig.fileFilter	No	String	File filter, which is configured when the filter type is WILDCARD . It is used to filter files in the specified directory. Use commas (,) to separate multiple files. For example, *.csv,*.txt .

Parameter	Mandatory	Type	Description
fromJobConfig.startTime	No	String	<p>If you set Filter Type to Time Filter, and specify a point in time for this parameter, only the files modified at or after the specified time are transferred. The time format must be <i>yyyy-MM-dd HH:mm:ss</i>.</p> <p>This parameter can be set to a macro variable of date and time. For example, <code>\${timestamp(dateformat(yyyy-MM-dd HH:mm:ss,-90,DAY))}</code> indicates that only files generated within the latest 90 days are migrated.</p>
fromJobConfig.endTime	No	String	<p>If you set Filter Type to Time Filter, and specify a point in time for this parameter, only the files modified before the specified time are transferred. The time format must be <i>yyyy-MM-dd HH:mm:ss</i>.</p> <p>This parameter can be set to a macro variable of date and time. For example, <code>\${timestamp(dateformat(yyyy-MM-dd HH:mm:ss))}</code> indicates that only the files whose modification time is earlier than the current time are migrated.</p>
fromJobConfig.fileSeparator	No	String	<p>File separator. If you enter multiple file paths in fromJobConfig.inputDirectory, CDM uses the file separator to separate files. The default value is .</p>
fromJobConfig.md5FileSuffix	No	String	<p>Check whether the files extracted by CDM are consistent with those in the migration source.</p>

4.4.2.7 From HTTP/HTTPS

Sample JSON File

```

"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.inputDirectory",
          "value": "http://10.114.196.186:8080/httpfrom/symbol.txt"
        },
        {
          "name": "fromJobConfig.inputFormat",
          "value": "BINARY_FILE"
        },
        {
          "name": "fromJobConfig.fromCompression",
          "value": "TARGZ"
        },
        {
          "name": "fromJobConfig.compressedFileSuffix",
          "value": "*"
        },
        {
          "name": "fromJobConfig.fileSeparator",
          "value": "|"
        }
      ],
      "name": "fromJobConfig"
    }
  ]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
fromJobConfig.inputDirectory	Yes	String	URL of the file to be extracted These connectors are used to read files with an HTTP/HTTPS URL, such as reading public files on the third-party object storage system and web disks.
fromJobConfig.inputFormat	Yes	Enumeration	File format required for data transmission. Currently, only the binary format is supported.

Parameter	Mandatory	Type	Description
fromJobConfig.fromCompression	No	Enumeration	<p>Compression format of the source files. The options are as follows:</p> <ul style="list-style-type: none"> • NONE: Files in all formats are transferred. • GZIP: Files in gzip format are transferred. • ZIP: Files in Zip format are transferred. • TAR.GZ: Files in TAR.GZ format are transferred.
fromJobConfig.compressedFileSuffix	No	String	<p>Extension of the files to be decompressed. The decompression operation is performed only when the file name extension is used in a batch of files. Otherwise, files are transferred in the original format. If you enter * or leave the parameter blank, all files are decompressed.</p>
fromJobConfig.fileSeparator	No	String	<p>File separator. When multiple files are transferred, CDM uses the file separator to separate files. The default value is .</p>
fromJobConfig.useQuery	No	Boolean	<ul style="list-style-type: none"> • If you set this parameter to true, the name of the objects uploaded to OBS does not carry the query parameter. • If you set this parameter to false, the name of the objects uploaded to OBS carries the query parameter.
fromJobConfig.md5FileSuffix	No	String	<p>Check whether the files extracted by CDM are consistent with those in the migration source.</p>

4.4.2.8 From MongoDB/DDS

Sample JSON File

```
"from-config-values": {
  "configs": [
```

```

{
  "inputs": [
    {
      "name": "fromJobConfig.database",
      "value": "cdm"
    },
    {
      "name": "fromJobConfig.collectionName",
      "value": "rf_from"
    },
    {
      "name": "fromJobConfig.columnList",
      "value": "TINYTEST&SMALLTEST&INTTEST&INTEGERTEST&BIGINTTEST&FLOATTEST"
    },
    {
      "name": "fromJobConfig.isBatchMigration",
      "value": "false"
    },
    {
      "name": "fromJobConfig.filters",
      "value": "{ 'last_name': 'Smith' }"
    }
  ],
  "name": "fromJobConfig"
}

```

Parameter Description

Parameter	Mandatory	Type	Description
fromJobConfig.database	Yes	String	Name of the MongoDB/DDS database
fromJobConfig.collectionName	Yes	String	Name of the MongoDB/DDS collection
fromJobConfig.columnList	No	String	List of fields to be extracted. Use & to separate field names. For example, id&gid&name .
fromJobConfig.isBatchMigration	No	Boolean	Whether to migrate all data in the database

Parameter	Mandatory	Type	Description
fromJobConfig.filters	No	String	<p>Filter condition for files. CDM migrates only the data that meets the filter condition.</p> <p>Examples:</p> <ol style="list-style-type: none"> Filter by expression: {'last_name': 'Smith'} indicates that all files whose last_name value is Smith are queried. Filter by parameter: { x : "john" }, { z : 1 } indicates that all z fields whose x is john are queried. Filter by condition: { "field" : { \$gt: 5 } } indicates that the field values greater than 5 are queried.

4.4.2.9 From Redis

Sample JSON File

```

"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.isBatchMigration",
          "value": "false"
        },
        {
          "name": "fromJobConfig.keyPrefix",
          "value": "rf_string_from"
        },
        {
          "name": "fromJobConfig.keySeparator",
          "value": ":"
        },
        {
          "name": "fromJobConfig.valueStoreType",
          "value": "STRING"
        },
        {
          "name": "fromJobConfig.valueSeparator",
          "value": ","
        },
        {
          "name": "fromJobConfig.columnList",
          "value": "1&2&3&4&5&6&7&8&9&10&11&12"
        }
      ],
      "name": "fromJobConfig"
    }
  ]
}

```

Parameter Description

- Redis job parameter description

Parameter	Mandatory	Type	Description
fromJobConfig.isBatchMigration	No	Boolean	Whether to migrate all data in the database
fromJobConfig.keyPrefix	Yes	String	Key prefix, which is the name of the corresponding association table. Mapping between Redis and the association table: <i>Name of the association table + delimiter</i> is a Redis key, and a row of data in the association table is a Redis value.
fromJobConfig.keySeparator	Yes	String	Key delimiter, which separates the association table and primary key
fromJobConfig.valueStoreType	Yes	String	Storage mode of rows of data in the association table on Redis. The options are string and hash . <ul style="list-style-type: none">STRING: indicates that a row of data is stored as a character string using delimiters to separate columns. This mode reduces storage space occupation.HASH: indicates that a row of data is stored in <i>column name:column value</i> format in the hash table.
fromJobConfig.valueSeparator	No	String	Value delimiter. The default value is <code>\tab</code> . This parameter is valid when valueStoreType is set to STRING .
fromJobConfig.columnList	No	String	List of fields to be extracted. Use & to separate field names. For example, id&gid&name .

Parameter	Mandatory	Type	Description
fromJobConfig.formats	No	Data structure	Time format. For details, see Description of the fromJobConfig.formats parameter .

- Description of the **fromJobConfig.formats** parameter

Parameter	Mandatory	Type	Description
name	Yes	String	Column number. For example, 1 .
value	Yes	String	Time format. For example, <i>yyyy-MM-dd</i> .

4.4.2.10 From DIS

Sample JSON File

```
"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.streamName",
          "value": "cdm"
        },
        {
          "name": "fromJobConfig.disConsumerStrategy",
          "value": "FROM_LAST_STOP"
        },
        {
          "name": "fromJobConfig.isPermanency",
          "value": "true"
        },
        {
          "name": "fromJobConfig.maxPollRecords",
          "value": "100"
        },
        {
          "name": "fromJobConfig.shardId",
          "value": "0"
        },
        {
          "name": "fromJobConfig.dataFormat",
          "value": "BINARY"
        },
        {
          "name": "fromJobConfig.separator",
          "value": ","
        }
      ],
      "name": "fromJobConfig"
    }
  ]
}
```

Parameter Description

Parameter	Mandatory	Type	Description
fromJobConfig.streamName	Yes	String	DIS stream name
fromJobConfig.disConsumerStrategy	Yes	Enumeration	Used to set the initial offset when data is pulled from DIS. The options are as follows: <ul style="list-style-type: none"> • LATEST: maximum offset, that is, the latest data • FROM_LAST_STOP: data after the last stop • EARLIEST: minimum offset, that is, the earliest data
fromJobConfig.isPermanency	Yes	Boolean	Whether to run permanently
fromJobConfig.maxPollRecords	No	String	Maximum number of requests that can be sent to DIS each time
fromJobConfig.partitionId	Yes	String	ID of the DIS partition. You can enter multiple partition IDs, which are separated by commas (,).
fromJobConfig.dataFormat	Yes	Enumeration	Format used for parsing data. The options are as follows: <ul style="list-style-type: none"> • BINARY: Data is transferred without being parsed, which is applicable to file migration. • CSV: Source data will be migrated after being parsed in CSV format.
fromJobConfig.separator	No	String	Field delimiter
fromJobConfig.appName	No	String	Unique identifier of the consumer application

4.4.2.11 From Kafka

Sample JSON File

```
"from-config-values": {
  "configs": [
    {
```

```

"inputs": [
  {
    "name": "fromJobConfig.topicsList",
    "value": "est1,est2"
  },
  {
    "name": "fromJobConfig.kafkaConsumerStrategy",
    "value": "EARLIEST"
  },
  {
    "name": "fromJobConfig.isPermanency",
    "value": "true"
  }
],
"name": "fromJobConfig"
}
]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
fromJobConfig.topicsList	Yes	String	List of Kafka topics. Separate multiple topics by commas (,).
fromJobConfig.kafkaConsumerStrategy	Yes	Enumeration	Used to set the initial offset when data is pulled from Kafka. The options are as follows: <ul style="list-style-type: none"> • LATEST: maximum offset, that is, the latest data • EARLIEST: minimum offset, that is, the earliest data
fromJobConfig.isPermanency	Yes	Boolean	Whether to run permanently
fromJobConfig.groupId	No	String	Consumer group ID If you export data from DMS Kafka, enter any value for Kafka Platinum but a valid consumer group ID for Kafka Basic.
fromJobConfig.dataFormat	Yes	Enumeration	Format used for parsing data. The options are as follows: <ul style="list-style-type: none"> • BINARY: Data is transferred without being parsed, which is applicable to file migration. • CSV: Source data will be migrated after being parsed in CSV format.

Parameter	Mandatory	Type	Description
fromJobConfig.maxPollRecords	No	String	Maximum number of requests that can be sent to Kafka each time
fromJobConfig.maxPollInterval	No	String	Maximum interval between each poll
fromJobConfig.separator	No	String	Field delimiter

4.4.2.12 From Elasticsearch/Cloud Search Service

Sample JSON File

```
"from-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "fromJobConfig.index",
          "value": "cdm"
        },
        {
          "name": "fromJobConfig.type",
          "value": "es"
        },
        {
          "name": "fromJobConfig.columnList",
          "value": "a1:numeric&s1:string"
        },
        {
          "name": "fromJobConfig.splitNestedField",
          "value": "true"
        },
        {
          "name": "fromJobConfig.queryString",
          "value": "last_name:Smith"
        }
      ],
      "name": "fromJobConfig"
    }
  ]
}
```

Parameter Description

Parameter	Mandatory	Type	Description
fromJobConfig.index	Yes	String	Index of the extracted data, which is similar to the database name in the relational database

Parameter	Mandatory	Type	Description
fromJobConfig.type	Yes	String	Type of the extracted data, which is similar to the table name in the relational database
fromJobConfig.columnList	No	String	List of fields to be extracted. Use & to separate field names. For example, id&gid&name .
fromJobConfig.splitNestedField	No	Boolean	Whether to split the JSON content of the nested field. For example, a:{ b:{ c:1, d:{ e:2, f:3 } } } can be split into a.b.c , a.b.d.e , and a.b.d.f .
fromJobConfig.queryString	No	String	Whether to use the Elasticsearch query string to filter the source data. CDM migrates only the data that meets the filter criteria.

4.4.3 Destination Job Parameters

4.4.3.1 To a Relational Database

Sample JSON File

```
"to-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "toJobConfig.schemaName",
          "value": "cdm"
        },
        {
          "name": "toJobConfig.tablePreparation",
          "value": "DROP_AND_CREATE"
        },
        {
          "name": "toJobConfig.tableName",
          "value": "rf_to"
        },
        {
          "name": "toJobConfig.columnList",
          "value": "id&gid&name"
        },
        {
          "name": "toJobConfig.isCompress",
          "value": "false"
        },
        {
          "name": "toJobConfig.orientation",
          "value": "ROW"
        }
      ],
    }
  ]
}
```

```

    "name": "toJobConfig.useStageTable",
    "value": "false"
  },
  {
    "name": "toJobConfig.shouldClearTable",
    "value": "false"
  },
  {
    "name": "toJobConfig.extendCharLength",
    "value": "false"
  }
],
"name": "toJobConfig"
}
]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
toJobConfig.schemaName	Yes	String	Database mode or tablespace
toJobConfig.tablePreparation	Yes	Enumeration	<p>This parameter is available only when both the source and destination databases are relational databases. The options for data write to tables are as follows:</p> <ul style="list-style-type: none"> • DO_NOTHING: Do not create the table automatically. • CREATE_WHEN_NOT_EXISTS: If the destination database does not contain the table specified by tableName, CDM automatically creates the table. • DROP_AND_CREATE: Delete the table specified by tableName, and then create the table again.
toJobConfig.tableName	Yes	String	Name of the table to which data is written
toJobConfig.columnList	No	String	List of fields to be loaded. Use & to separate field names. For example, id&gid&name .

Parameter	Mandatory	Type	Description
toJobConfig.beforeImportType	No	Enumeration	<p>Whether to clear the data in the target table before data import. The options are as follows:</p> <ul style="list-style-type: none"> • none: Do not clear the data in the target table before data import but append data to the table. • shouldClearTable: Clear the data in the target table before data import. • whereClause: To clear data in the target table based on the WHERE clause, set the toJobConfig.whereClause parameter. CDM deletes the data from the target table as specified.
toJobConfig.whereClause	No	String	WHERE clause used to delete data from the target table before data import
toJobConfig.orientation	No	Enumeration	<p>Storage mode. This parameter is enabled only for the DWS database. When the DWS database table needs to be automatically created, the optional data storage modes of the table are as follows:</p> <ul style="list-style-type: none"> • ROW: Data in the table is stored in rows. • COLUMN: Data in the table is stored in columns.
toJobConfig.isCompress	No	Boolean	Whether to perform compression. This parameter is enabled only for the DWS database. When the DWS database table needs to be automatically created, you can specify whether to store the data in the table after compression.

Parameter	Mandatory	Type	Description
toJobConfig.useStageTable	No	Boolean	Whether to import data to the phase table first. If this parameter is set to true , the data is imported to the phase table before it is imported to the destination table. After the data is successfully imported to the phase table, it is then imported from the phase table to the destination table. In this way, the data that is successfully imported to the destination table remains in case the data import fails.
toJobConfig.extendCharLength	No	Boolean	Whether to extend the length of the character string field. If this parameter is set to true , the length of the character string field in the destination table is three times the length of the corresponding field in the source table when the destination table needs to be automatically created.
toJobConfig.useNullable	No	Boolean	If you choose to create a target table automatically and specify the NOT NULL constraint, keep the NOT NULL constraints of the source and target tables consistent.

4.4.3.2 To OBS

Sample JSON File

```
"to-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "toJobConfig.bucketName",
          "value": "cdm"
        },
        {
          "name": "toJobConfig.outputDirectory",
          "value": "/obsfrom/advance/"
        },
        {
          "name": "toJobConfig.outputFormat",
          "value": "CSV_FILE"
        }
      ]
    }
  ]
}
```

```

    "name": "toJobConfig.fieldSeparator",
    "value": ",",
  },
  {
    "name": "toJobConfig.writeToTempFile",
    "value": "false"
  },
  {
    "name": "toJobConfig.validateMD5",
    "value": "false"
  },
  {
    "name": "toJobConfig.recordMD5Result",
    "value": "false"
  },
  {
    "name": "toJobConfig.encodeType",
    "value": "UTF-8"
  },
  {
    "name": "toJobConfig.markerFile",
    "value": "finish.txt"
  },
  {
    "name": "toJobConfig.duplicateFileOpType",
    "value": "REPLACE"
  },
  {
    "name": "toJobConfig.columnList",
    "value": "1&2"
  },
  {
    "name": "toJobConfig.quoteChar",
    "value": "false"
  },
  {
    "name": "toJobConfig.encryption",
    "value": "NONE"
  },
  {
    "name": "toJobConfig.copyContentType",
    "value": "false"
  }
],
"name": "toJobConfig"
}
]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
toJobConfig.bucketName	Yes	String	OBS bucket name. For example, cdm .
toJobConfig.outputDirectory	Yes	String	Path to which data is written. For example, data_dir .

Parameter	Mandatory	Type	Description
toJobConfig.outputFormat	Yes	Enumeration	<p>File format required for data writes (except the binary format). Currently, the following file formats are supported:</p> <ul style="list-style-type: none"> • CSV_FILE: Write data in CSV format. • BINARY_FILE: Files are directly transferred without resolving the content. CDM writes the file without changing the file format. <p>If you select BINARY_FILE, the migration source must also be a file system.</p>
toJobConfig.fieldSeparator	No	String	<p>Column delimiter. This parameter is valid only when toJobConfig.outputFormat is CSV_FILE. The default value is <code>,</code>.</p>
toJobConfig.lineSeparator	No	String	<p>Line feed character. This parameter is valid only when toJobConfig.outputFormat is CSV_FILE. The default value is <code>\r\n</code>.</p>
toJobConfig.writeFileSize	No	String	<p>Whether to fragment multiple files by size so that the files are exported in proper size. The unit is MB. This parameter is valid when the migration source is a database.</p>

Parameter	Mandatory	Type	Description
toJobConfig.duplicateFileType	No	Enumeration	Method for processing duplicate files. If the name and size of a file are the same as those of another file, the file is regarded as a duplicate file. Duplicate files can be processed in the following ways: <ul style="list-style-type: none"> • REPLACE: Replace duplicate files. • SKIP: Skip duplicate files. • ABANDON: Stop the job when any duplicate file is found.
toJobConfig.columnList	No	String	List of fields to be extracted. Use & to separate field names. For example, id&gid&name .
toJobConfig.encryption	No	Enumeration	Whether to encrypt the uploaded data and the encryption method. The options are as follows: <ul style="list-style-type: none"> • NONE: Directly write data without encryption. • KMS: Use KMS in Data Encryption Workshop (DEW) for encryption. If KMS encryption is enabled, MD5 verification for data cannot be performed.
toJobConfig.kmsID	No	String	Key used for encryption during data upload. You must create a key in KMS before data upload.
toJobConfig.projectID	No	String	ID of the project to which the KMS key belongs.
toJobConfig.writeToTempFile	No	Boolean	The binary file is written to a .tmp file first. After the migration is successful, run the rename or move command at the migration destination to restore the file.

Parameter	Mandatory	Type	Description
toJobConfig.validateMD5	No	Boolean	Whether to verify the MD5 value. MD5 verification cannot be used together with KMS encryption. MD5 values can be verified only when files are transferred in binary format. Calculate the MD5 value of the source file and verify it with the MD5 value returned by OBS. If an MD5 file exists on the source end, directly read the MD5 file and verify the MD5 file with the MD5 value returned by OBS.
toJobConfig.recordMD5Result	No	Boolean	Whether to record the verification result when the MD5 value is verified
toJobConfig.recordMD5Link	No	String	OBS link where the bucket to which the MD5 verification result is written resides
toJobConfig.recordMD5Bucket	No	String	OBS bucket to which the MD5 verification result is written
toJobConfig.recordMD5Directory	No	String	Directory to which the MD5 verification result is written
toJobConfig.encodeType	No	String	Encoding type. For example, UTF_8 or GBK .
toJobConfig.markerFile	No	String	Whether to generate a marker file with a custom name in the destination directory after a job is executed successfully. If you do not specify a file name, this function is disabled by default.

Parameter	Mandatory	Type	Description
toJobConfig.copyContentType	No	Boolean	<p>This parameter is displayed only when toJobConfig.outputFormat is BINARY_FILE and both the migration source and destination are object storage.</p> <p>If you set this parameter to Yes, the Content-Type attribute of the source file is copied during object file migration. This function is mainly used for static website migration</p> <p>The Content-Type attribute cannot be written to Archive buckets. Therefore, if you set this parameter to Yes, the migration destination must be a non-Archive bucket.</p>
toJobConfig.quoteChar	No	Boolean	<p>This parameter is available only when toJobConfig.outputFormat is CSV_FILE. It is used when database tables are migrated to file systems.</p> <p>If you set this parameter to Yes and a field in the source data table contains a field delimiter or line separator, CDM uses double quotation marks (") as the quote character to quote the field content as a whole to prevent a field delimiter from dividing a field into two fields, or a line separator from dividing a field into different lines. For example, if the hello,world field in the database is quoted, it will be exported to the CSV file as a whole.</p>

Parameter	Mandatory	Type	Description
toJobConfig.firstRowAsHeader	No	Boolean	This parameter is available only when toJobConfig.outputFormat is CSV_FILE . When a table is migrated to a CSV file, CDM does not migrate the heading line of the table by default. If this parameter is set to Yes , CDM writes the heading line of the table to the file.
toJobConfig.filePrefix	No	String	Custom file name prefix. It can be any custom name or a combination of the table name macro, time macro, and version macro. Example: \${tableName}_\${dateformat(yyyy-MM-dd HH:mm:ss, -1, DAY)}_\${version} . The file name must comply with the OBS file path naming rules.

4.4.3.3 To HDFS

Sample JSON File

```
"to-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "toJobConfig.outputDirectory",
          "value": "/hdfsto"
        },
        {
          "name": "toJobConfig.outputFormat",
          "value": "BINARY_FILE"
        },
        {
          "name": "toJobConfig.writeToTempFile",
          "value": "false"
        },
        {
          "name": "toJobConfig.duplicateFileOpType",
          "value": "REPLACE"
        },
        {
          "name": "toJobConfig.compression",
          "value": "NONE"
        },
        {
          "name": "toJobConfig.appendMode",
          "value": "true"
        }
      ]
    }
  ]
}
```

```

    }
  ],
  "name": "toJobConfig"
}
]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
toJobConfig.outputDirectory	Yes	String	Path to which data is written. For example, <code>/data_dir</code> .
toJobConfig.outputFormat	Yes	Enumeration	File format required for data writes (except the binary format). Currently, the following file formats are supported: <ul style="list-style-type: none"> • CSV_FILE: Write data in CSV format. • BINARY_FILE: Files are directly transferred without resolving the content. CDM writes the file without changing the file format. If you select BINARY_FILE , the migration source must also be a file system.
toJobConfig.lineSeparator	No	String	Line feed character. This parameter is valid only when toJobConfig.outputFormat is CSV_FILE . The default value is <code>\r\n</code> .
toJobConfig.fieldSeparator	No	String	Column delimiter. This parameter is valid only when toJobConfig.outputFormat is CSV_FILE . The default value is <code>,</code> .
toJobConfig.writeToTempFile	No	Boolean	The binary file is written to a .tmp file first. After the migration is successful, run the rename or move command at the migration destination to restore the file.

Parameter	Mandatory	Type	Description
toJobConfig.duplicateFileType	No	Enumeration	<p>Method for processing duplicate files. If the name and size of a file are the same as those of another file, the file is regarded as a duplicate file. Duplicate files can be processed in the following ways:</p> <ul style="list-style-type: none"> • REPLACE: Replace duplicate files. • SKIP: Skip duplicate files. • ABANDON: Stop the job when any duplicate file is found.
toJobConfig.compression	No	Enumeration	<p>After the file is written, select the compression format of the file. The following compression formats are supported:</p> <ul style="list-style-type: none"> • NONE: Do not compress the file. • DEFLATE: Compress the file in DEFLATE format. • GZIP: Compress the file in gzip format. • BZIP2: Compress the file in bzip2 format. • LZ4: Compress the file in LZ4 format. • SNAPPY: Compress the file in Snappy format.
toJobConfig.appendMode	Yes	Boolean	<p>Whether to write data when one or more files exist in the loading path. The default value is false.</p>

Parameter	Mandatory	Type	Description
toJobConfig.encryption	No	Enumeration	<p>This parameter is available only when toJobConfig.outputFormat is set to BINARY_FILE. It specifies whether to encrypt the uploaded data, and the encryption method. The options are as follows:</p> <ul style="list-style-type: none"> • NONE: Directly write data without encryption. • AES-256-GCM: Use the AES 256-bit encryption algorithm to encrypt data. Currently, only the AES-256-GCM (NoPadding) encryption algorithm is supported.
toJobConfig.dek	No	String	<p>Data encryption key. This parameter is available when toJobConfig.encryption is set to AES-256-GCM. The key is a string of 64-bit hexadecimal numbers.</p> <p>Remember the key configured here because the decryption key must be the same as that configured here. If the encryption and decryption keys are inconsistent, the system does not report an exception, but the decrypted data is incorrect.</p>
toJobConfig.iv	No	String	<p>Initialization vector. This parameter is available when toJobConfig.encryption is set to AES-256-GCM. The initialization vector is a string of 32-bit hexadecimal numbers.</p> <p>Remember the initialization vector configured here because the initialization vector used for decryption must be the same as that configured here. If the encryption and decryption keys are inconsistent, the system does not report an exception, but the decrypted data is incorrect.</p>

Parameter	Mandatory	Type	Description
toJobConfig.file Prefix	No	String	Custom file name prefix, which can be a time macro, for example, test_\${dateformat(yyyyMMdd, -1, DAY)} . The file name must comply with the HDFS file path naming rules.

4.4.3.4 To Hive

Sample JSON File

```
"to-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "toJobConfig.hive",
          "value": "hive"
        },
        {
          "name": "toJobConfig.database",
          "value": "rf_database"
        },
        {
          "name": "toJobConfig.table",
          "value": "rf_to"
        },
        {
          "name": "toJobConfig.tablePreparation",
          "value": "DO_NOTHING"
        },
        {
          "name": "toJobConfig.columnList",
          "value": "aa&bb&cc&dd"
        },
        {
          "name": "toJobConfig.shouldClearTable",
          "value": "true"
        }
      ]
    },
    {
      "name": "toJobConfig"
    }
  ]
}
```

Parameter Description

Parameter	Mandatory	Type	Description
toJobConfig.hive	No	String	Data source to which data is written

Parameter	Mandatory	Type	Description
toJobConfig.database	No	String	Name of the database to which data is written. For example, default .
toJobConfig.table	Yes	String	Name of the table to which data is written
toJobConfig.tablePreparation	Yes	Enumeration	The options for data write to tables are as follows: <ul style="list-style-type: none">• DO_NOTHING: Do not create the table automatically.• CREATE_WHEN_NOT_EXISTS: If the destination database does not contain the table specified by tableName, CDM automatically creates the table.• DROP_AND_CREATE: Delete the table specified by tableName, and then create the table again.
toJobConfig.columnList	No	String	List of fields to be loaded. Use & to separate field names. For example, id&gid&name .
toJobConfig.shouldClearTable	No	Boolean	Whether to clear the data in the target table before data import. If this parameter is set to true , the data in the target table is cleared before the job is started.

4.4.3.5 To HBase/CloudTable

Sample JSON File

```
"to-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "toJobConfig.table",
          "value": "rf_to"
        },
        {
          "name": "toJobConfig.storageType",
          "value": "PUTLIST"
        }
      ]
    }
  ]
}
```

```

    "name": "toJobConfig.columns",
    "value": "AA:AA&BB:BB&CC:CC&DD:DD"
  },
  {
    "name": "toJobConfig.rowKeyColumn",
    "value": "AA:AA"
  },
  {
    "name": "toJobConfig.isOverride",
    "value": "false"
  },
  {
    "name": "toJobConfig.isRowkeyRedundancy",
    "value": "false"
  },
  {
    "name": "toJobConfig.algorithm",
    "value": "NONE"
  },
  {
    "name": "toJobConfig.writeToWAL",
    "value": "true"
  },
  {
    "name": "toJobConfig.transType",
    "value": "false"
  }
],
"name": "toJobConfig"
}
]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
toJobConfig.table	Yes	String	Name of the table to which data is written. For example, TBL_EXAMPLE .
toJobConfig.storageType	Yes	Enumeration	Mode for writing data to an HBase table. The options are as follows: <ul style="list-style-type: none"> ● PUTLIST: Data is written using the putList() function.
toJobConfig.columns	No	String	Columns to be extracted. Use & to separate column numbers and : to separate column families and columns. For example, cf1:c1&cf2:c2 .
toJobConfig.rowKeyColumn	Yes	String	Columns serve as rowkeys. Use & to separate column numbers and : to separate column families and columns. For example, cf1:c1&cf2:c2 .

Parameter	Mandatory	Type	Description
toJobConfig.isO verride	No	Boolean	Whether to clear data when data is imported in BULKLOAD mode. For example, true .
toJobConfig.deli miter	No	String	Delimiter used for separating columns when multiple columns are used as rowkeys. For example, vertical bars ().
toJobConfig.isRo wkeyRedundanc y	No	Boolean	Whether to write rowkey data to the HBase column at the same time
toJobConfig.alg orithm	No	Enumeratio n	Compression algorithm used when a new HBase table is created. The Snappy and GZ algorithms are supported. The default value is None .
toJobConfig.writ eToWAL	No	Boolean	Whether to enable Write Ahead Log (WAL) of HBase. The options are as follows: <ul style="list-style-type: none">• Yes: If the HBase server breaks down after the function is enabled, you can replay the operations that have not been performed in WAL.• No: If you set this parameter to No, the write performance is improved. However, if the HBase server breaks down, data may be lost.

Parameter	Mandatory	Type	Description
toJobConfig.transType	No	Boolean	<ul style="list-style-type: none"> true: Data of the Short, Int, Long, Float, Double, and Decimal columns in the source database is converted into Byte[] arrays (binary) and written into HBase. Other types of data are written as character strings. If several types of data mentioned above are combined as rowkeys, they will be written as character strings. This function saves storage space. In specific scenarios, the rowkey distribution is even. false: All types of data in the source database are written into HBase as character strings.

4.4.3.6 To DDS

Sample JSON File

```

"to-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "toJobConfig.database",
          "value": "demo"
        },
        {
          "name": "toJobConfig.collectionName",
          "value": "cdmbase"
        },
        {
          "name": "toJobConfig.columnList",
          "value": "_char&_varchar"
        },
        {
          "name": "toJobConfig.isBatchMigration",
          "value": "false"
        }
      ]
    },
    {
      "name": "toJobConfig"
    }
  ]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
toJobConfig.database	Yes	String	Name of the MongoDB/DDS database
toJobConfig.collectionName	Yes	String	Name of the MongoDB/DDS collection
toJobConfig.columnList	No	String	List of fields to be extracted. Use & to separate field names. For example, id&gid&name .
toJobConfig.isBatchMigration	No	Boolean	Whether to migrate all data in the database

4.4.3.7 To Elasticsearch/Cloud Search Service

Sample JSON File

```

"to-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "toJobConfig.index",
          "value": "cdm"
        },
        {
          "name": "toJobConfig.type",
          "value": "type1"
        },
        {
          "name": "toJobConfig.shouldClearType",
          "value": "false"
        },
        {
          "name": "toJobConfig.pipeLine",
          "value": "es_03"
        }
      ],
      "name": "toJobConfig"
    }
  ]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
toJobConfig.index	Yes	String	Index of the written data, which is similar to the database name in the relational database

Parameter	Mandatory	Type	Description
toJobConfig.type	Yes	String	Type of the written data, which is similar to the table name in the relational database
toJobConfig.shouldClearType	No	Boolean	Whether to clear data before import
toJobConfig.primaryKey	No	String	Primary key or unique index
toJobConfig.columnList	No	String	List of fields to be written. Use & to separate field names. For example, id&gid&name .
toJobConfig.pipeline	No	String	This parameter is available only after a pipeline ID is created in Kibana. It is used to convert the data format using the data transformation pipeline of Cloud Search Service or Elasticsearch after data is transferred to Cloud Search Service or Elasticsearch.

Parameter	Mandatory	Type	Description
toJobConfig.createIndexStrategy	No	Enumeration	<p>For streaming jobs that continuously write data to Elasticsearch, CDM periodically creates indexes and writes data to the indexes, which helps you delete expired data. The indexes can be created based on the following periods:</p> <ul style="list-style-type: none"> • EveryHour: CDM creates indexes on the hour. The new indexes are named in the format of <i>Index name+Year+Month+Day+Hour</i>, for example, index2018121709. • EveryDay: CDM creates indexes at 00:00 every day. The new indexes are named in the format of <i>Index name+Year+Month+Day</i>, for example, index20181217. • EveryWeek: CDM creates indexes at 00:00 every Monday. The new indexes are named in the format of <i>Index name+Year+Week</i>, for example, index201842. • EveryMonth: CDM creates indexes at 00:00 on the first day of each month. The new indexes are named in the format of <i>Index name+Year+Month</i>, for example, index201812. <p>When extracting data from a file, you must configure a single extractor, which means setting Concurrent Extractors to 1. Otherwise, this parameter is invalid.</p>

4.4.3.8 To DLI

Sample JSON File

```

"to-config-values": {
  "configs": [
    {
      "inputs": [

```

```

    {
      "name": "toJobConfig.queue",
      "value": "cdm"
    },
    {
      "name": "toJobConfig.database",
      "value": "sqoop"
    },
    {
      "name": "toJobConfig.table",
      "value": "est1"
    },
    {
      "name": "toJobConfig.columnList",
      "value":
"string_&int_&date_&double_&boolean_&short_&timestamp_&long_&smallint_&bigint_"
    },
    {
      "name": "toJobConfig.shouldClearTable",
      "value": "false"
    }
  ],
  "name": "toJobConfig"
}
]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
toJobConfig.queue	Yes	String	Resource queue to which data is written
toJobConfig.database	Yes	String	DLI database to which data is written
toJobConfig.table	Yes	String	Name of the table to which data is written
toJobConfig.columnList	No	String	List of fields to be loaded. Use & to separate field names. For example, id&gid&name .
toJobConfig.shouldClearTable	No	Boolean	Whether to clear data in the resource queue before data import

4.4.3.9 To DIS

Sample JSON File

```

"to-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "toJobConfig.streamName",
          "value": "cdm"
        },
        {

```

```

        "name": "toJobConfig.separator",
        "value": " ",
      },
      {
        "name": "toJobConfig.identifierEnclose",
        "value": ""
      }
    ],
    "name": "toJobConfig"
  }
]
}

```

Parameter description

Parameter	Mandatory	Type	Description
toJobConfig.streamName	Yes	String	DIS stream name
toJobConfig.separator	No	String	Field separator. The default value is a space.
toJobConfig.identifierEnclose	No	String	Delimiter used to separate referenced table names or column names. By default, this parameter is left blank.

4.4.4 Job Parameter Description

When you perform the operations in [Creating a Job in a Specified Cluster](#) or [Creating and Executing a Job in a Random Cluster](#), the **driver-config-values** parameter specifies the job configuration, which includes the following functions:

- **Retry upon Failure:** If a job fails to be executed, you can choose whether to automatically restart the job.
- **Job Group:** CDM allows you to group jobs. You can filter, delete, start, or export jobs by group.
- **Schedule Execution:** Specify whether to execute scheduled jobs.
- **Concurrent Extractors:** Enter the number of concurrent extractors.
- **Write Dirty Data:** Specify this parameter if data that fails to be processed or filtered out during job execution needs to be written to OBS for future viewing. Before writing dirty data, create an OBS link.
- **Delete Job After Completion:** Specify whether to delete a job after the job is executed.

Sample JSON File

```

"driver-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "throttlingConfig.numExtractors",
          "value": "1"
        }
      ]
    }
  ]
}

```

```

    {
      "name": "throttlingConfig.numLoaders",
      "value": "1"
    },
    {
      "name": "throttlingConfig.recordDirtyData",
      "value": "false"
    }
  ],
  "name": "throttlingConfig"
},
{
  "inputs": [],
  "name": "jarConfig"
},
{
  "inputs": [
    {
      "name": "schedulerConfig.isSchedulerJob",
      "value": "false"
    },
    {
      "name": "schedulerConfig.disposableType",
      "value": "NONE"
    }
  ],
  "name": "schedulerConfig"
},
{
  "inputs": [],
  "name": "transformConfig"
},
{
  "inputs": [
    {
      "name": "retryJobConfig.retryJobType",
      "value": "NONE"
    }
  ],
  "name": "retryJobConfig"
}
]
}

```

Parameter Description

Parameter	Mandatory	Type	Description
throttlingConfig.numExtractors	No	Integer	Maximum number of concurrent extraction jobs. For example, 20 .
groupJobConfig.groupName	No	Enumeration	Group to which a job belongs. The default group is DEFAULT .
throttlingConfig.numLoaders	No	Integer	This parameter is available only when HBase or Hive serves as the destination data source. Maximum number of loading jobs. For example, 5 .
throttlingConfig.recordDirtyData	No	Boolean	Whether to write dirty data. For example, true .

Parameter	Mandatory	Type	Description
throttlingConfig.writeToLink	No	String	Link to which dirty data is written. Currently, dirty data can be written only to OBS or HDFS. For example, obslink .
throttlingConfig.obsBucket	No	String	Name of the OBS bucket to which dirty data is written. This parameter is valid only when dirty data is written to OBS. For example, dirtyData .
throttlingConfig.dirtyDataDirectory	No	String	Directory to which dirty data is written <ul style="list-style-type: none"> To write dirty data to HDFS, set this parameter to the specified HDFS directory. To write dirty data to OBS, set this parameter to the directory in the OBS bucket. For example, /data/dirtydata/.
throttlingConfig.maxErrorRecords	No	String	Maximum number of error records in a single shard. When the number of error records of a map exceeds the upper limit, the task automatically ends. The imported data will not be rolled back.
schedulerConfig.isSchedulerJob	No	Boolean	Whether to enable a scheduled task. For example, true .
schedulerConfig.cycleType	No	String	Cycle type of a scheduled task. The options are as follows: <ul style="list-style-type: none"> minute: minute hour: hour day: day week: week month: month
schedulerConfig.cycle	No	Integer	Cycle of a scheduled task. If cycleType is set to minute and cycle is set to 10 , the scheduled task is executed every 10 minutes.

Parameter	Mandatory	Type	Description
schedulerConfig. runAt	No	String	<p>Time when a scheduled task is triggered in a cycle. This parameter is valid only when cycleType is set to hour, week, or month.</p> <ul style="list-style-type: none"> If cycleType is set to month, cycle is set to 1, and runAt is set to 15, the scheduled task is executed on the 15th day of each month. You can set runAt to multiple values and separate the values with commas (,). For example, if runAt is set to 1,2,3,4,5, the scheduled task is executed on the first day, second day, third day, fourth day, and fifth day of each month. If cycleType is set to week and runAt is set to mon,tue,wed,thu,fri, the scheduled task is executed on Monday to Friday. If cycleType is set to hour and runAt is set to 27,57, the scheduled task is executed at the 27th and 57th minute in the cycle.
schedulerConfig. startDate	No	String	<p>Start time of a scheduled task. For example, 2018-01-24 19:56:19.</p>
schedulerConfig. stopDate	No	String	<p>End time of a scheduled task. For example, 2018-01-27 23:59:00.</p> <p>If you do not set the end time, the scheduled task is always executed and will never stop.</p>

Parameter	Mandatory	Type	Description
schedulerConfig. disposableType	No	Enumeration	Whether to delete a job after the job is executed. The options are as follows: <ul style="list-style-type: none">• NONE: A job will not be deleted after it is executed.• DELETE_AFTER_SUCCEED: A job will be deleted only after it is successfully executed. It is applicable to massive one-time jobs.• DELETE: A job will be deleted after it is executed, regardless of the execution result.
retryJobConfig. retryJobType	No	Enumeration	Whether to automatically retry if a job fails to be executed. The options are as follows: <ul style="list-style-type: none">• NONE: Do not retry.• RETRY_TRIPLE: Retry three times.

5 DataArts Factory APIs (V1)

5.1 Script Development APIs

5.1.1 Creating a Script

Function

This API is used to create a script. Currently, the following script types are supported: DLI SQL, Flink SQL, RDS SQL, Spark SQL, Hive SQL, DWS SQL, Shell, Presto SQL, ClickHouse SQL, HetuEngine SQL, Python, Impala SQL, and Spark Python.

URI

- URI format
POST /v1/{project_id}/scripts
- Parameter description

Table 5-1 URI parameter

Parameter	Man dator y	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 5-2 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Table 5-3 Script parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Script name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), and periods (.). The script name must be unique.
type	Yes	String	<p>Script type.</p> <ul style="list-style-type: none"> FlinkSQL DLISQL SparkSQL HiveSQL DWSSQL RDSSQL Shell PRESTO ClickHouseSQL HetuEngineSQL PYTHON ImpalaSQL SparkPython
content	Yes	String	Script content. A maximum of 4 MB is supported.

Parameter	Mandatory	Type	Description
directory	No	String	Directory for storing the script. Access the DataArts Studio console and go to the DataArts Factory page. In the left navigation pane, choose Data Development > Develop Script . In the directory tree of the script, you can view the created directories. The default directory is the root directory.
connectionName	No	String	Name of the connection associated with the script. This parameter is mandatory when type is set to DLISQL, SparkSQL, HiveSQL, DWSSQL, Shell, PRESTO, ClickHouseSQL, HetuEngineSQL, RDSSQL, ImpalaSQL, PYTHON, or SparkPython . To obtain the existing connections, refer to the instructions in Querying a Connection List (to Be Taken Offline) . By default, this parameter is left blank.
database	No	String	Database associated with an SQL statement. This parameter is available only when type is set to DLISQL, SparkSQL, HiveSQL, DWSSQL, PRESTO, RDSSQL, ClickHouseSQL, ImpalaSQL, or HetuEngineSQL . <ul style="list-style-type: none"> If type is set to DLI SQL, obtain database information by calling the API for querying all databases in the <i>Data Lake Insight API Reference</i>. This parameter is mandatory when the script is not of any type listed.
queueName	Yes	String	Queue name of the DLI resource. This parameter is available only when type is set to DLISQL . You can obtain the queue information by calling the API for "Querying All Queues" in the <i>Data Lake Insight API Reference</i> . By default, this parameter is left blank.

Parameter	Mandatory	Type	Description
configuration	No	map <String, Object>	Configuration defined by a user for the job. This parameter is available only when type is set to DLISQL . For details about the supported configuration items, see conf parameter description in the "Submitting a SQL Job" section of the <i>Data Lake Insight API Reference</i> . By default, this parameter is left blank.
description	No	String	The description contains a maximum of 255 characters.
owner	No	String	Owner name
targetStatus	No	String	This parameter is required if the review function is enabled. It indicates the target status of the script. The value can be SAVED , SUBMITTED , or PRODUCTION . <ul style="list-style-type: none"> • SAVED indicates that the script is saved but cannot be scheduled or executed. It can be executed only after submitted and approved. • SUBMITTED indicates that the script is automatically submitted after it is saved and can be executed after it is approved. • PRODUCTION indicates that the script can be directly executed after it is created. Note: Only the workspace administrator can create scripts in the PRODUCTION state.
approvers	No	List<JobApprover>	Script approver. This parameter is required if the review function is enabled. For details, see Table 5-4 .

Table 5-4 Approver attributes

Parameter	Mandatory	Type	Description
approverName	Yes	String	Approver name

Response Parameters

None.

Example Request

Create a script named **echoTimeShell** whose type is Shell, content is **echo a**, and associated connection is **con**.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts
{
  "name": "echoTimeShell",
  "type": "Shell",
  "content": "echo a",
  "queueName": "default",
  "connectionName": "con"
}
```

Create a script when the review function is enabled.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts
{
  "name": "echoTimeShell",
  "type": "Shell",
  "content": "echo a",
  "queueName": "default",
  "connectionName": "con",
  "targetStatus": "SUBMITTED",
  "approvers": [
    {
      "approverName": "userName1"
    },
    {
      "approverName": "userName2"
    }
  ]
}
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.6247",
  "error_msg": "The script type is not specified."
}
```

Status Code

See [Status Codes](#).

5.1.2 Modifying a Script

Function

This API is used to modify the configuration items or script contents of a script.

- When modifying a script, specify the name of the script to be modified.
- The script name and type cannot be modified.

URI

- URI format

PUT /v1/{project_id}/scripts/{script_name}

- Parameter description

Table 5-5 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
script_name	Yes	String	Script name.

Request Parameters

Table 5-6 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> • If this parameter is not set, data in the default workspace is queried by default. • To query data in other workspaces, this header must be carried.

Table 5-7 Script parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Script name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), and periods (.). The script name must be unique.

Parameter	Mandatory	Type	Description
type	Yes	String	Script type. <ul style="list-style-type: none"> • FlinkSQL • DLISQL • SparkSQL • HiveSQL • DWSSQL • RDSSQL • Shell • PRESTO • ClickHouseSQL • HetuEngineSQL • PYTHON • ImpalaSQL • SparkPython
content	Yes	String	Script content. A maximum of 4 MB is supported.
directory	No	String	Directory for storing the script. Access the DataArts Studio console and choose Data Development . In the left navigation pane, choose Development > Develop Script . In the directory tree of the script, you can view the created directories. The default directory is the root directory.
connectionName	No	String	Name of the connection associated with the script. This parameter is mandatory when type is set to DLISQL, SparkSQL, HiveSQL, DWSSQL, Shell, PRESTO, ClickHouseSQL, HetuEngineSQL, RDSSQL, ImpalaSQL, PYTHON, or SparkPython . To obtain the existing connections, refer to the instructions in Querying a Connection List (to Be Taken Offline) . By default, this parameter is left blank.

Parameter	Mandatory	Type	Description
database	No	String	<p>Database associated with an SQL statement. This parameter is available only when type is set to DLISQL, SparkSQL, HiveSQL, DWSSQL, PRESTO, RDSSQL, ClickHouseSQL, ImpalaSQL, or HetuEngineSQL.</p> <ul style="list-style-type: none"> If type is set to DLI SQL, obtain database information by calling the API for querying all databases in the <i>Data Lake Insight API Reference</i>. Connect to the cluster in JDBC mode to query database information if type is not set to DLISQL. By default, this parameter is left blank.
queueName	Yes	String	<p>Queue name of the DLI resource. This parameter is available only when type is set to DLISQL. You can obtain the queue information by calling the API for "Querying All Queues" in the <i>Data Lake Insight API Reference</i>. By default, this parameter is left blank.</p>
configuration	No	map <String, Object>	<p>Configuration defined by a user for the job. This parameter is available only when type is set to DLISQL. For details about the supported configuration items, see conf parameter description in the "Submitting a SQL Job" section of the <i>Data Lake Insight API Reference</i>. By default, this parameter is left blank.</p>
description	No	String	<p>Description of the script. The description contains a maximum of 255 characters.</p>

Parameter	Mandatory	Type	Description
targetStatus	No	String	<p>This parameter is required if the review function is enabled. It indicates the target status of the script. The value can be SAVED, SUBMITTED, or PRODUCTION.</p> <ul style="list-style-type: none"> • SAVED indicates that the script is saved but cannot be scheduled or executed. It can be executed only after submitted and approved. • SUBMITTED indicates that the script is automatically submitted after it is saved and can be executed after it is approved. • PRODUCTION indicates that the script can be directly executed after it is created. Note: Only the workspace administrator can create scripts in the PRODUCTION state.
approvers	No	List<JobApprover>	<p>Script approver. This parameter is required if the review function is enabled. For details, see Table 5-8.</p> <p>For details about how to enable the review function, see Review Center.</p>

Table 5-8 Approver attributes

Parameter	Mandatory	Type	Description
approverName	Yes	String	Approver name

Response Parameters

None.

Example Request

Modify a script named **echoTimeShell** whose type is Shell, content is **echo a**, and associated connection is **con**.

```
PUT /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts/echoTimeShell
{
  "name": "echoTimeShell",
  "type": "Shell",
  "content": "echo a",
  "queueName": "default",
  "connectionName": "con"
}
```

Change the script content when the review function is enabled.

```
PUT /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts/echoTimeShell
{
  "name": "echoTimeShell",
  "type": "Shell",
  "content": "echo a",
  "queueName": "default",
  "connectionName": "con",
  "approvers": [
    {
      "approverName": "userName1"
    },
    {
      "approverName": "userName2"
    }
  ]
}
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.6201",
  "error_msg": "The script does not exist."
}
```

5.1.3 Querying Script Details

Function

This API is used to query a script, including the script type and script content.

URI

- URI format
GET /v1/{project_id}/scripts/{script_name}?version={version}
- Parameter description

Table 5-9 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
script_name	Yes	String	Script name.

Parameter	Mandatory	Type	Description
version	No	integer	Script version. If the version number is transferred, the script of the specified version is queried. If the version number is not transferred, the script of the latest version is queried.
status	No	String	Used to query the script status if version is not specified. The default value is SAVED , indicating that the latest submitted version is to be queried. If the value is PUBLISHED , the production version of the script is to be queried.

Request Parameters

Table 5-10 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-11 Script parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Script name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), and periods (.). The script name must be unique.

Parameter	Mandatory	Type	Description
type	Yes	String	Script type. <ul style="list-style-type: none"> • FlinkSQL • DLISQL • SparkSQL • HiveSQL • DWSSQL • RDSSQL • Shell • PRESTO • ClickHouseSQL • HetuEngineSQL • PYTHON • ImpalaSQL • SparkPython
content	Yes	String	Script content. A maximum of 64 KB is supported.
directory	No	String	Directory for storing the script. Access the DataArts Studio console and choose DataArts Factory . In the left navigation pane, choose Data Development > Develop Script . In the directory tree of the script, you can view the created directories. The default directory is the root directory.
connectionName	No	String	Name of the connection associated with the script. This parameter is mandatory when type is set to DLISQL, SparkSQL, HiveSQL, DWSSQL, Shell, PRESTO, ClickHouseSQL, ImpalaSQL, RDSSQL, or HetuEngineSQL . To obtain the existing connections, refer to the instructions in Querying a Connection List (to Be Taken Offline) . By default, this parameter is left blank.

Parameter	Mandatory	Type	Description
database	No	String	<p>Database associated with an SQL statement. This parameter is available only when type is set to DLISQL, SparkSQL, HiveSQL, DWSSQL, PRESTO, RDSSQL, ClickHouseSQL, ImpalaSQL, or HetuEngineSQL.</p> <ul style="list-style-type: none"> If type is set to DLISQL, obtain database information by calling the API for querying all databases in the <i>Data Lake Insight API Reference</i>. Connect to the cluster in JDBC mode to query database information if type is not set to DLISQL. By default, this parameter is left blank.
queueName	No	String	<p>Queue name of the DLI resource. This parameter is available only when type is set to DLISQL. You can obtain the queue information by calling the API for "Querying All Queues" in the <i>Data Lake Insight API Reference</i>. By default, this parameter is left blank.</p>
configuration	No	map <String, Object>	<p>Configuration defined by a user for the job. This parameter is available only when type is set to DLISQL. For details about the supported configuration items, see conf parameter description in the "Submitting a SQL Job" section of the <i>Data Lake Insight API Reference</i>. By default, this parameter is left blank.</p>
description	No	String	<p>Description of the script. The description contains a maximum of 255 characters.</p>
autoAcquireLock	No	boolean	<p>Whether to automatically obtain the edit lock parameters. The default value is true.</p>

Example Request

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts/scriptName
```

Example Response

- Success response
HTTP status code 200

```
{
  "configuration": {},
```



```
"connectionName":"mrs_spark",
"content":"SELECT 1;",
"database":"aaa",
"description":"",
"directory":"/",
"name":"mrs_spark_sql",
"type":"SparkSQL"
}
```

- Failure response

HTTP status code 400

```
{
  "error_code":"DLF.6201",
  "error_msg":"The script does not exist."
}
```

Status Codes

See [Status Codes](#).

5.1.4 Querying a Script List

Function

This API is used to query the script list. A maximum of 1,000 scripts can be returned for each query.

URI

- URI format
GET /v1/{project_id}/scripts?
offset={offset}&limit={limit}&scriptName={scriptName}
- Parameter description

Table 5-12 URI parameters

Parameter	Man dator y	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
limit	No	Integer	The maximum number of records on each page. The value ranges from 1 to 100. Default value: 10
offset	No	Integer	Start page of the paging list. The default value is 0 . The value must be greater than or equal to 0 .
scriptName	No	String	Script name.

Request Parameters

Table 5-13 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Parameter	Mandatory	Type	Description
total	Yes	Integer	The total number of scripts.
scripts	Yes	List<Script>	A list of scripts.

Table 5-14 Script parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Script name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), and periods (.). The script name must be unique.

Parameter	Mandatory	Type	Description
type	Yes	String	Script type. <ul style="list-style-type: none"> • FlinkSQL • DLISQL • SparkSQL • HiveSQL • DWSSQL • RDSSQL • Shell • PRESTO • ClickHouseSQL • HetuEngineSQL • PYTHON • ImpalaSQL • SparkPython
content	Yes	String	Script content. A maximum of 64 KB is supported.
directory	No	String	Directory for storing the script. Access the DataArts Studio console and choose DataArts Factory . In the left navigation pane, choose Data Development > Develop Script . In the directory tree of the script, you can view the created directories. The default directory is the root directory.
connectionName	No	String	Name of the connection associated with the script. This parameter is mandatory when type is set to DLISQL, SparkSQL, HiveSQL, DWSSQL, Shell, PRESTO, ClickHouseSQL, ImpalaSQL, RDSSQL, or HetuEngineSQL . To obtain the existing connections, refer to the instructions in Querying a Connection List (to Be Taken Offline) . By default, this parameter is left blank.

Parameter	Mandatory	Type	Description
database	No	String	<p>Database associated with an SQL statement. This parameter is available only when type is set to DLISQL, SparkSQL, HiveSQL, DWSSQL, PRESTO, RDSSQL, ClickHouseSQL, ImpalaSQL, or HetuEngineSQL.</p> <ul style="list-style-type: none"> If type is set to DLISQL, obtain database information by calling the API for querying all databases in the <i>Data Lake Insight API Reference</i>. If type is not set to DLISQL, connect to the cluster in JDBC mode to query database information. By default, this parameter is left blank.
queueName	No	String	<p>Queue name of the DLI resource. This parameter is available only when type is set to DLISQL. You can obtain the queue information by calling the API for "Querying All Queues" in the <i>Data Lake Insight API Reference</i>. By default, this parameter is left blank.</p>
configuration	No	map <String, Object>	<p>Configuration defined by a user for the job. This parameter is available only when type is set to DLISQL. For details about the supported configuration items, see conf parameter description in the "Submitting a SQL Job" section of the <i>Data Lake Insight API Reference</i>. By default, this parameter is left blank.</p>
description	No	String	<p>Description of the script. The description contains a maximum of 255 characters.</p>

Example Request

Query a script list.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts
```

Example Response

- Success response

HTTP status code 200

```
{
  "total": 1,
  "scripts": [
    {
      "configuration": {},

```

```
    "connectionName": "mrs_spark",
    "content": "SELECT 1;",
    "database": "aaa",
    "description": "",
    "directory": "/",
    "name": "mrs_spark_sql",
    "type": "SparkSQL"
  }
]
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.3051",
  "error_msg": "The request parameter is invalid."
}
```

5.1.5 Querying the Execution Result of a Script Instance

Function

This API is used to obtain the execution status and result of a script instance. During the query, specify the script name and script instance ID.

URI

- URI format
GET /v1/{project_id}/scripts/{script_name}/instances/{instance_id}
- Parameter description

Table 5-15 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
script_name	Yes	String	Script name.
instance_id	Yes	String	Script instance ID. For details about how to obtain the ID, see the response parameters in Executing a Script .

Request Parameters

Table 5-16 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-17 Response parameters

Parameter	Mandatory	Type	Description
status	Yes	String	<p>Execution status.</p> <p>LAUNCHING: The script instance is being submitted.</p> <p>RUNNING: The script instance is running.</p> <p>FINISHED: The script instance is successfully run.</p> <p>FAILED: The script instance fails to be run.</p>
results	Yes	List<Result>	Execution result of the script instance.
message	No	String	Execution failure message

Table 5-18 Result data structure description

Parameter	Mandatory	Type	Description
message	No	Object	Returned message
schema	No	List<Map<String, String>>	Metadata information

Parameter	Mandatory	Type	Description
rows	No	List<List<Object>>	Result data
rowCount	No	Long	Number of the result rows
inputRowCount	No	Long	Number of the input result rows. (This result is returned when scripts such as DLI scripts are executed.)
resultCount	No	Long	Number of the result rows. (This result is returned when scripts such as DLI scripts are executed.)
duration	No	Float	Duration of executing the script instance. Unit: second
rawResult	No	Map<String, Object>	Script execution result

Example Request

GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts/dwsscript/instances/a1ad-448a-9d56-4154193d49c5

Example Response

- Success response

HTTP status code 200

```
{
  "results": [{
    "message": "",
    "duration": 0.5,
    "rowCount": 1,
    "rows": [[913460.0,
      765.0,
      "8/31/2015 23:26",
      "Harry Bridges Plaza (Ferry Building)",
      50.0,
      "8/31/2015 23:39",
      "San Francisco Caltrain (Townsend at 4th)",
      70.0,
      "288",
      "Subscriber",
      "2139"]],
    "schema": [{
      "TripID": "int"
    }],
    {
      "Duration": "int"
    },
    {
      "StartDate": "string"
    },
    {
      "StartStation": "string"
    },
    {
      "StartTerminal": "int"
    }
  ]
}
```

```

    },
    {
      "EndDate": "string"
    },
    {
      "EndStation": "string"
    },
    {
      "EndTerminal": "int"
    },
    {
      "Bike": "string"
    },
    {
      "SubscriberType": "string"
    },
    {
      "ZipCode": "string"
    }
  ]],
  "status": "FINISHED"
}

```

- Failure response

HTTP status code 400

```

{
  "error_code": "DLF.6201",
  "error_msg": "The script does not exist."
}

```

Status Codes

See [Status Codes](#).

5.1.6 Deleting a Script

Function

This API is used to delete a specific script.

URI

- URI format
DELETE /v1/{project_id}/scripts/{script_name}
- Parameter description

Table 5-19 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
script_name	Yes	String	Script name.

Request Parameters

Table 5-20 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Table 5-21 Parameters

Parameter	Mandatory	Type	Description
approvers	No	List<JobApprover>	Script approver. This parameter is required if the review function is enabled. For details, see Table 5-22 .

Table 5-22 Approver attributes

Parameter	Mandatory	Type	Description
approverName	Yes	String	Approver name

Response Parameters

None.

Example Request

```
DELETE /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts/echoTime
```

Delete a script when the review function is enabled.

```
DELETE /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts/echoTime
{
  "approvers": [
    {
      "approverName": "userName1"
    },
    {
      "approverName": "userName2"
    }
  ]
}
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.6201",
  "error_msg": "The script does not exist."
}
```

Status Codes

See [Status Codes](#).

5.1.7 Executing a Script

Function

This API is used to execute specified scripts, including DWS SQL, DLI SQL, RDS SQL, Hive SQL, Spark SQL, Presto SQL, Shell, ClickHouse SQL, HetuEngine SQL, Python, Impala SQL, or Spark Python scripts. A script instance is generated each time the script is executed. You can call the API [Querying the Execution Result of a Script Instance](#) to obtain script execution results.

NOTE

DLI SQL and Presto SQL scripts do not support multi-statement scenarios.

URI

- URI format
POST /v1/{project_id}/scripts/{script_name}/execute
- Parameter description

Table 5-23 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
script_name	Yes	String	Script name.

Request Parameters

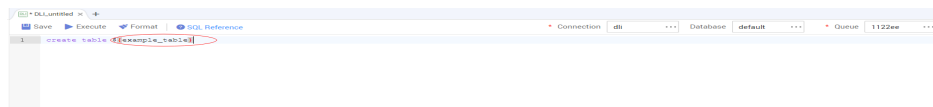
Table 5-24 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Table 5-25 Parameters

Parameter	Mandatory	Type	Description
params	No	Object	Script parameters of the Map<String,String> type. If a parameter is defined in the script, the parameter value is carried in the params.

Script parameters refer to the parameters in the script content, as shown in the following figure.



Response Parameters

Table 5-26 Response parameters

Parameter	Mandatory	Type	Description
instanceId	Yes	String	<p>ID of the instance that executes the script. You can obtain the execution result by using the instance ID in Querying the Execution Result of a Script Instance.</p>

Example Request

Run the `dws_sql` script. In the script, the value of `tableVar` is `citys`, and the value of `time` is `2019-07-25`.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts/dws_sql/execute
{
  "params": {
    "tableVar": "citys",
    "time": "2019-07-25"
  }
}
```

Example Response

- Success response
HTTP status code 200
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF6201",
  "error_msg": "The script does not exist."
}
```

Status Codes

See [Status Codes](#).

5.1.8 Stopping Executing a Script Instance

Function

This API is used to stop executing a script instance.

URI

- URI format
POST /v1/{project_id}/scripts/{script_name}/instances/{instance_id}/stop
- Parameter description

Table 5-27 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
script_name	Yes	String	Script name.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Script instance ID. For details about how to obtain the ID, see the response parameters in Executing a Script .

Request Parameters

Table 5-28 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

None.

Example Request

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/scripts/dwsscript/instances/a1ad-448a-9d56-4154193d49c5/stop
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.6205",
  "error_msg": "The script running history does not exist."
}
```

Status Codes

See [Status Codes](#).

5.2 Resource Management APIs

5.2.1 Creating a Resource

Function

This API is used to create a resource. Types of nodes, including DLI Spark, MRS Spark, and MRS MapReduce, can reference files such as JAR and properties through resources.

URI

- URI format
POST /v1/{project_id}/resources
- Parameter description

Table 5-29 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 5-30 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none">• If this parameter is not set, data in the default workspace is queried by default.• To query data in other workspaces, this header must be carried.

Table 5-31 Resource parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the resource. The name contains a maximum of 32 characters, including only letters, numbers, underscores (_), and hyphens (-).

Parameter	Mandatory	Type	Description
type	Yes	String	Resource type. <ul style="list-style-type: none"> • archive • file • jar
location	Yes	String	OBS path for storing the resource file. When type is set to jar , location is the path for storing the main JAR package. The path contains a maximum of 1,023 characters. For example, obs://myBucket/test.jar
dependFiles	No	List<String >	JAR package and properties file that the main JAR package depends on. The description contains a maximum of 10,240 characters.
desc	No	String	Description of the resource. The description contains a maximum of 255 characters.
directory	No	String	Directory for storing the resource. Log in to the DataArts Studio console and access the DataArts Factory console. In the navigation pane, choose Configuration > Configure . In the resource directory tree, you can view the created directories. The default directory is the root directory.

Response Parameters

Table 5-32 Response parameter

Parameter	Mandatory	Type	Description
resourceId	Yes	String	Resource ID.

Example Request

Create a resource named **test**. The resource type is **jar**. The OBS path where the resource file is located is **obs://dlf-test/hadoop-mapreduce-examples-2.4.1.jar**. The JAR package and properties file on which the resource's main JAR package depends are **obs://dlf-test/depend1.jar**,"**obs://dlf-test/depend2.jar**. The description is **test**. The directory where the resource is located is **/resource**.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/resources
{
  "name": "test",
  "type": "jar",
  "location": "obs://dlf-test/hadoop-mapreduce-examples-2.4.1.jar",
  "dependFiles": ["obs://dlf-test/depend1.jar","obs://dlf-test/depend2.jar"],
  "desc": "test",
  "directory": "/resource"
}
```

Example Response

- Success response

```
{
  "resourceId": "3624d1c3-5df5-4f20-9af9-98eadad6c5f9"
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.6259",
  "error_msg": "Files of the same name exist in the directory."
}
```

Status Codes

See [Status Codes](#).

5.2.2 Modifying a Resource

Function

This API is used to modify a specific resource. When modifying the resource, specify the resource ID.

- The resource type and directory cannot be modified.

URI

- URI format
PUT /v1/{project_id}/resources/{resource_id}
- Parameter description

Table 5-33 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
resource_id	Yes	String	Resource ID. For details about how to obtain the resource ID, see Querying a Resource List . The returned ID is resource_id .

Request Parameters

Table 5-34 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Table 5-35 Resource parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the resource. The name contains a maximum of 32 characters, including only letters, numbers, underscores (_), and hyphens (-).
type	Yes	String	<p>Resource type.</p> <ul style="list-style-type: none"> archive file jar
location	No	String	OBS path for storing the resource file. When type is set to jar , location is the path for storing the main JAR package. The path contains a maximum of 1,023 characters. For example, obs://myBucket/test.jar
dependFiles	No	List<String>	JAR package and properties file that the main JAR package depends on. The description contains a maximum of 10,240 characters.
dependPackages	No	List<DependPackage>	JAR package and properties file that the main JAR package depends on. The description contains a maximum of 10,240 characters. If this parameter and the dependFiles parameter are both available, this parameter is preferentially parsed.

Parameter	Mandatory	Type	Description
desc	No	String	Description of the resource. The description contains a maximum of 255 characters.
directory	Yes	String	Directory for storing the resource. Log in to the DataArts Studio console and access the DataArts Factory console. In the navigation pane, choose Configuration > Configure . In the resource directory tree, you can view the created directories. The default directory is the root directory.

Table 5-36 DependPackage parameters

Parameter	Mandatory	Type	Description
type	No	String	File type
location	No	String	File path

Response Parameters

None.

Example Request

Modify a resource named **test**. The resource type is **jar**. The OBS path where the resource file is located is **obs://dlf-test/hadoop-mapreduce-examples-2.4.1.jar**. The JAR package and properties file on which the resource's main JAR package depends are **obs://dlf-test/depend1.jar**, "**obs://dlf-test/depend2.jar**". The description is **test**. The directory where the resource is located is **/resource**.

```
PUT /v1/b384b9e9ab9b4ee8994c8633aabc9505/resources/3624d1c3-5df5-4f20-9af9-98eadad6c5f9
{
  "name": "test",
  "type": "jar",
  "location": "obs://dlf-test/hadoop-mapreduce-examples-2.4.1.jar",
  "dependFiles": ["obs://dlf-test/depend1.jar","obs://dlf-test/depend2.jar"],
  "desc": "test",
  "directory": "/resource"
}
```

Example Response

- Success response
HTTP status code 204

- Failure response
HTTP status code 400

```
{
  "error_code": "DLF6241",
  "error_msg": "The resource information does not exist."
}
```

5.2.3 Querying Resource Details

Function

This API is used to query resource details. A resource contains various files such as JAR, ZIP, and properties files. A created resource can be used in job nodes such as DLI Spark and MRS Spark.

URI

- URI format
GET /v1/{project_id}/resources/{resource_id}
- Parameter description

Table 5-37 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
resource_id	Yes	String	Resource ID. For details about how to obtain the resource ID, see Querying a Resource List . The returned ID is resource_id .

Request Parameters

Table 5-38 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> • If this parameter is not set, data in the default workspace is queried by default. • To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-39 Resource parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the resource. The name contains a maximum of 32 characters, including only letters, numbers, underscores (_), and hyphens (-).
type	Yes	String	Resource type. <ul style="list-style-type: none"> archive file jar
location	Yes	String	OBS path for storing the resource file. When type is set to jar , location is the path for storing the main JAR package. The path contains a maximum of 256 characters. For example, obs://myBucket/test.jar
dependFiles	No	List<String>	JAR package and properties file that the main JAR package depends on. The description contains a maximum of 10,240 characters.
desc	No	String	Description of the resource. The description contains a maximum of 255 characters.
directory	No	String	Directory for storing the resource. Log in to the DataArts Studio console and access the DataArts Factory console. In the navigation pane, choose Configuration > Configure . In the resource directory tree, you can view the created directories. The default directory is the root directory.

Example Request

View resource details.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/resources/3624d1c3-5df5-4f20-9af9-98eadad6c5f9
```

Example Response

- Success response

```
{
  "name": "test",
  "type": "jar",
```

```
"location": "obs://dlf-test/hadoop-mapreduce-examples-2.4.1.jar",
"dependFiles": ["obs://dlf-test/depend1.jar","obs://dlf-test/depend2.jar"],
"desc": "test",
"directory":"/resource"
}
```

- Failure response

HTTP status code 400

```
{
"error_code":"DLF.6241",
"error_msg":"The resource information does not exist."
}
```

Status Codes

See [Status Codes](#).

5.2.4 Deleting a Resource

Function

This API is used to delete a resource.

URI

- URI format
DELETE /v1/{project_id}/resources/{resource_id}
- Parameter description

Table 5-40 URI parameters

Parameter	Man dator y	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
resource_id	Yes	String	Resource ID. For details about how to obtain the resource ID, see Querying a Resource List . The returned ID is resource_id .

Request Parameters

Table 5-41 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

None.

Example Request

```
DELETE /v1/b384b9e9ab9b4ee8994c8633aabc9505/resources/3624d1c3-5df5-4f20-9af9-98eadad6c5f9
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.6241",
  "error_msg": "The resource information does not exist."
}
```

Status Codes

See [Status Codes](#).

5.2.5 Querying a Resource List

Function

This API is used to query a resource list. During the query, you can specify the page number and the maximum number of records on each page.

URI

- URI format
GET /v1/{project_id}/resources?
offset={offset}&limit={limit}&resourceName={resourceName}

- Parameter description

Table 5-42 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
offset	No	Integer	Start page of the paging list. Default value: 0 The value must be greater than or equal to 0 .
limit	No	Integer	The maximum number of records on each page. The value ranges from 1 to 100. Default value: 10
resourceName	No	String	Name of the resource.

Request Parameters

Table 5-43 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none">• If this parameter is not set, data in the default workspace is queried by default.• To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-44 Parameter description

Parameter	Mandatory	Type	Description
total	Yes	Integer	The total number of resources.

Parameter	Mandatory	Type	Description
resources	Yes	List<Resource>	A list of resources.

Table 5-45 Resource parameters

Parameter	Mandatory	Type	Description
id	Yes	String	ID of the resource. The resource ID is used to query the resource.
name	Yes	String	Name of the resource. The name contains a maximum of 32 characters, including only letters, numbers, underscores (_), and hyphens (-).
type	Yes	String	Resource type. <ul style="list-style-type: none"> • archive • file • jar
location	Yes	String	OBS path for storing the resource file. When type is set to jar , location is the path for storing the main JAR package. The path contains a maximum of 256 characters. For example, obs://myBucket/test.jar
dependFiles	No	List<String>	JAR package and properties file that the main JAR package depends on. The description contains a maximum of 10,240 characters.
desc	No	String	The description contains a maximum of 255 characters.
directory	No	String	Directory for storing the resource. Log in to the DataArts Studio console and access the DataArts Factory console. In the navigation pane, choose Configuration > Configure . In the resource directory tree, you can view the created directories. The default directory is the root directory.

Example Request

Query a list of resources.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/resources
```

Example Response

- Success response

HTTP status code 200

```
{
  "total":1,
  "resources":[
    {
      "id":"b384b9e9ab9b4ee8994c8633aabc9505",
      "name":"test",
      "type":"jar",
      "location":"obs://00000000dlf-test/hadoop-mapreduce-examples-2.4.1.jar",
      "dependFiles":[
        "obs://00000000dlf-test/depend1.jar",
        "obs://00000000dlf-test/depend2.jar"
      ],
      "desc":"test",
      "directory":"/resource"
    }
  ]
}
```

- Failure response

HTTP status code 400

```
{
  "error_code":"DLF.3051",
  "error_msg":"The request parameter is invalid."
}
```

5.3 Job Development APIs

5.3.1 Creating a Job

Function

This API is used to create a job. A job consists of one or more nodes, such as Hive SQL and CDM Job nodes. DLF supports two types of jobs: batch jobs and real-time jobs.

URI

- URI format
POST /v1/{project_id}/jobs
- Parameter description

Table 5-46 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 5-47 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried. <p>NOTE</p> <ul style="list-style-type: none"> You need to specify a workspace for multiple DataArts Studio instances. This parameter is mandatory if no default workspace is available. Otherwise, an error is reported.

Table 5-48 Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Job name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), underscores (_), and periods (.). The job name must be unique.
nodes	Yes	List<Node>	Node definition. For details, see Table 5-49 .
schedule	Yes	Schedule data structure	Scheduling configuration. For details, see Table 5-50 .
params	No	List<Param>	Job parameter definition. For details, see Table 5-51 .

Parameter	Mandatory	Type	Description
directory	No	String	Path of a job in the directory tree. If the directory of the path does not exist during job creation, a directory is automatically created in the root directory /, for example, /dir/a/ .
processType	Yes	String	Job type. <ul style="list-style-type: none"> ● REAL_TIME: real-time processing ● BATCH: batch processing
singleNodeJobFlag	No	Boolean	Whether the job is a single-task job. The default value is false .
singleNodeJobType	No	String	Single task type. If processType is BATCH , the following values are available for this parameter: <ul style="list-style-type: none"> ● DLISQL ● DWSSQL ● HiveSQL ● SparkSQL ● RDSSQL If Type is set to REAL_TIME, Type can be set to FlinkSQL, FlinkJar , or DLISpark.
lastUpdateUser	No	String	User who last updated the job
logPath	No	String	OBS path for storing job run logs
basicConfig	No	BasicConfig data structure	Basic job information. For details, see Table 5-74 .
emptyRunningJob	No	String	The value can be 0 or 1 . 1 indicates dry run, and 0 indicates canceling dry run. If this parameter is not set, the default value 0 is used.

Parameter	Mandatory	Type	Description
targetStatus	No	String	<p>This parameter is required if the review function is enabled. It indicates the target status of the job. The value can be SAVED, SUBMITTED, or PRODUCTION.</p> <ul style="list-style-type: none"> • SAVED indicates that the job is saved but cannot be scheduled or executed. It can be executed only after submitted and approved. • SUBMITTED indicates that the job is automatically submitted after it is saved and can be executed after it is approved. • PRODUCTION indicates that the job can be directly executed after it is created. Note: Only the workspace administrator can create jobs in the PRODUCTION state.
approvers	No	List<JobApprover>	Job approver. This parameter is required if the review function is enabled. For details, see Table 5-78 .

Table 5-49 Node data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Node name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), underscores (_), and periods (.). Names of the nodes in a job must be unique.

Parameter	Mandatory	Type	Description
type	Yes	String	<p>Node type. The options are as follows:</p> <ul style="list-style-type: none"> • Hive SQL: runs Hive SQL scripts. • Spark SQL: runs Spark SQL scripts. • DWS SQL: runs DWS SQL scripts. • DLI SQL: runs DLI SQL scripts. • Shell: runs shell SQL scripts. • CDM Job: runs CDM jobs. • DIS Transfer Task: creates DIS dump tasks. • CloudTable Manager: manages CloudTable tables, including creating and deleting tables. • OBS Manager: manages OBS paths, including creating and deleting paths. • RestClient: sends REST API requests. • SMN: sends short messages or emails. • MRS Spark: runs Spark jobs of MRS. • MapReduce: runs MapReduce jobs of MRS. • MRSFlinkJob: runs FlinkJob jobs of MRS. • MRS HetuEngine: runs HetuEngine jobs of MRS. • DLI Spark: runs Spark jobs of DLF. • RDSSQL: transfers SQL statements to RDS for execution. • ModelArts Train: executes workflow jobs of ModelArts. • Dummy: job with no node
location	Yes	Location data structure	<p>Location of a node on the job canvas. For details, see Table 5-52.</p>
preNodeName	No	List<String>	<p>Name of the previous node on which the current node depends</p>
conditions	No	List<Condition>	<p>Node execution condition. Whether the node is executed or not depends on the calculation result of the EL expression saved in the expression field of condition. For details, see Table 5-53.</p>

Parameter	Mandatory	Type	Description
properties	Yes	List<Property>	<p>Node properties. For details, see Table 5-59.</p> <p>Each type of node has its own property definition.</p> <ul style="list-style-type: none"> • Hive SQL: For details, see Table 5-60. • Spark SQL: For details, see Table 5-61. • DWS SQL: For details, see Table 5-62. • DLI SQL: For details, see Table 5-63. • Shell: For details, see Table 5-64. • CDM Job: For details, see Table 5-65. • DIS TransferTask: For details, see Table 5-66. • CloudTableManager: For details, see Table 5-67. • OBSManager: For details, see Table 5-68. • RestClient: For details, see Table 5-69. • SMN: For details, see Table 5-70. • MRS Spark: For details, see Table 5-71. • MapReduce: For details, see Table 5-72. • DLI Spark: For details, see Table 5-73. • MRS Flink: For details, see Table 5-75. • MRS HetuEngine: For details, see Table 5-76. • ModelArts Train: For details, see Table 5-77.
pollingInterval	No	Int	<p>Interval at which node running results are checked.</p> <p>Unit: second; value range: 1 to 60</p> <p>Default value: 10</p>
execTimeOutRetry	No	String	<p>Whether to retry a node upon timeout. The default value is false.</p>

Parameter	Mandatory	Type	Description
maxExecutionTime	No	Int	Maximum execution time of a node. If a node is not executed within the maximum execution time, the node is set to the failed state. The unit is minute. The value ranges from 5 to 7200. Other values do not take effect. Default value: 60
retryTimes	No	Int	Number of the node retries. The value ranges from 1 to 100. Default value: 1
retryInterval	No	Int	Interval at which a retry is performed upon a failure. The value ranges from 5 to 600. Unit: second Default value: 120
failPolicy	No	String	Node failure policy <ul style="list-style-type: none"> ● FAIL: Terminate the execution of the current job. ● IGNORE: Continue to execute the next node. ● SUSPEND: Suspend the execution of the current job. ● FAIL_CHILD: Terminate the execution of the subsequent node. The default value is FAIL.
eventTrigger	No	Event data structure	Event trigger for the real-time job node. For details, see Table 5-56 .
cronTrigger	No	Cron data structure	Cron trigger for the real-time job node. For details, see Table 5-54 .

Table 5-50 Schedule data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Scheduling type. <ul style="list-style-type: none"> ● EXECUTE_ONCE: The job runs immediately and runs only once. ● CRON: The job runs periodically. ● EVENT: The job is triggered by events.

Parameter	Mandatory	Type	Description
cron	No	Data structure	When type is set to CRON , configure the scheduling frequency and start time. For details, see Table 5-55 .
event	No	Data structure	When type is set to EVENT , configure information such as the event source. For details, see Table 5-56 .

Table 5-51 Param data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Name of a parameter. The name contains a maximum of 64 characters, including only letters, numbers, hyphens (-), and underscores (_).
value	Yes	String	Value of the parameter. It cannot exceed 1,024 characters.
type	No	String	Parameter type <ul style="list-style-type: none"> • variable • constants Default value: variable

Table 5-52 Location data structure description

Parameter	Mandatory	Type	Description
x	Yes	Int	Position of the node on the horizontal axis of the job canvas
y	Yes	Int	Position of the node on the vertical axis of the job canvas

Table 5-53 condition data structure description

Parameter	Mandatory	Type	Description
preNodeName	Yes	String	Name of the previous node on which the current node depends

Parameter	Mandatory	Type	Description
expression	Yes	String	EL expression. If the calculation result of the EL expression is true, this node is executed.

Table 5-54 CronTrigger data structure description

Parameter	Mandatory	Type	Description
startTime	Yes	String	Scheduling start time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job starts to be scheduled at 23:59:59 on October 22nd, 2018.
endTime	No	String	Scheduling end time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job stops to be scheduled at 23:59:59 on October 22nd, 2018. If the end time is not set, the job will continuously be executed based on the scheduling period.
expression	Yes	String	Cron expression in the format of <second><minute><hour><day><month>><week>. For details about the value input in each field, see Table 5-57 .
expressionTime Zone	No	String	Time zone corresponding to the Cron expression, for example, GMT+8. Default value: time zone where DataArts Studio is located
period	Yes	String	Job execution interval consisting of a time and time unit Example: 1 hour, 1 day, 1 week, 1 month The value must match the value of expression .

Parameter	Mandatory	Type	Description
dependPrePeriod	No	Boolean	Indicates whether to depend on the execution result of the current job's dependent job in the previous scheduling period. Default value: false
dependJobs	No	DependJobs data structure	Job dependency configuration. For details, see Table 5-58 .
concurrent	No	Integer	Number of concurrent executions allowed

Table 5-55 Cron data structure description

Parameter	Mandatory	Type	Description
startTime	Yes	String	Scheduling start time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job starts to be scheduled at 23:59:59 on October 22nd, 2018.
endTime	No	String	Scheduling end time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job stops to be scheduled at 23:59:59 on October 22nd, 2018. If the end time is not set, the job will continuously be executed based on the scheduling period.
expression	Yes	String	Cron expression in the format of <second><minute><hour><day><month>><week>. For details about the value input in each field, see Table 5-57 .
expressionTime Zone	No	String	Time zone corresponding to the Cron expression, for example, GMT+8. Default value: time zone where DataArts Studio is located

Parameter	Mandatory	Type	Description
dependPrePeriod	No	Boolean	Indicates whether to depend on the execution result of the current job's dependent job in the previous scheduling period. Default value: false
dependJobs	No	DependJobs data structure	Job dependency configuration. For details, see Table 5-58 .

Table 5-56 Event data structure description

Parameter	Mandatory	Type	Description
eventType	Yes	String	Select the corresponding connection name and topic. When a new Kafka message is received, the job is triggered. Set this parameter to KAFKA . Event type. Currently, only newly reported data events from the DIS stream can be monitored. Each time a data record is reported, the job runs once. This parameter is set to DIS . Select the OBS path to be listened to. If new files exist in the path, scheduling is triggered. The path name can be referenced using variable Job.trigger.obsNewFiles. The prerequisite is that DIS notifications have been configured for the OBS path. Set this parameter to OBS .
channel	Yes	String	DIS stream name. Perform the following operations to obtain the stream name: 1. Log in to the management console. 2. Click Data Ingestion Service and select Stream Management from the left navigation pane. 3. The stream management page lists the existing streams.

Parameter	Mandatory	Type	Description
failPolicy	No	String	Job failure policy <ul style="list-style-type: none"> • SUSPEND: Suspend the event. • IGNORE: Ignore the failure and process with the next event. Default value: SUSPEND
concurrent	No	int	Number of the concurrently scheduled jobs Value range: 1 to 128 Default value: 1
readPolicy	No	String	Access policy. <ul style="list-style-type: none"> • LAST: Access data from the last location. • NEW: Access data from a new location. Default value: LAST

Table 5-57 Values in the Cron expression fields

Field	Value Range	Allowed Special Character	Description
Second	0-59	, - * /	In the current version, only 0 is allowed.
Minute	0-59	, - * /	None
Hour	0-23	, - * /	None
Day	1-31	, - * ? / L W C	None
Month	1-12	, - * /	In the current version, only * is allowed.
Week	1-7	, - * ? / L C #	Starting from Sunday.

Table 5-58 DependJobs data structure description

Parameter	Mandatory	Type	Description
jobs	Yes	List<String>	A list of dependent jobs. Only the existing jobs can be depended on.

Parameter	Mandatory	Type	Description
dependPeriod	No	String	<p>Dependency period.</p> <ul style="list-style-type: none"> • SAME_PERIOD: To run a job or not depends on the execution result of its depended job in the current scheduling period. • PRE_PERIOD: To run a job or not depends on the execution result of its depended job in the previous scheduling period. <p>Default value: SAME_PERIOD</p>
dependFailPolicy	No	String	<p>Dependency job failure policy.</p> <ul style="list-style-type: none"> • FAIL: Stop the job and set the job to the failed state. • IGNORE: Continue to run the job. • SUSPEND: Suspend the job. <p>Default value: FAIL</p>

Table 5-59 Property parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Property name
value	Yes	String	Property value

Table 5-60 Parameters of the Hive SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name.
database	No	String	<p>Database name.</p> <p>Database in the MRS Hive. The default value is default.</p>
connectionName	No	String	Name of a connection
scriptArgs	No	String	<p>Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2.</p>

Table 5-61 Parameters of the Spark SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name.
database	No	String	Database name. Database in the MRS Spark SQL. The default value is default .
connectionName	No	String	Name of a connection
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-62 Parameters of the DWS SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name.
database	No	String	Database name. Database in DWS. The default value is postgres .
connectionName	No	String	Name of a connection
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-63 Parameters of the DLI SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name.
database	No	String	Database name. Database in DLI.
connectionName	No	String	Name of a connection

Parameter	Mandatory	Type	Description
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-64 Parameters of the shell node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name.
connectionName	Yes	String	Name of a connection
arguments	No	String	Shell script parameter.

Table 5-65 Parameters of the CDM Job node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	Cluster name. You can obtain the cluster name from the CDM cluster list on the DataArts Migration page of the DataArts Studio console.
jobName	Yes	String	Job name. To obtain the job name, access the DataArts Studio console, choose DataArts Migration , click a cluster name on the Cluster Management page, and click Job Management on the displayed page.

Table 5-66 Parameters of the DISTransferTask node

Parameter	Mandatory	Type	Description
streamName	Yes	String	DIS stream name. Perform the following operations to obtain the stream name: <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Data Ingestion Service and select Stream Management from the left navigation pane. 3. The stream management page lists the existing streams.
destinationType	Yes	String	Dump target. <ul style="list-style-type: none"> • CloudTable • OBS
duplicatePolicy	Yes	String	Duplicate name policy. <ul style="list-style-type: none"> • OVERWRITE • IGNORE
configuration	Yes	Data structure	Dump configuration. For details, see the descriptions of the obs_destination_descriptor and cloudtable_destination_descriptor parameters in .

Table 5-67 Parameters of the CloudTableManager node

Parameter	Mandatory	Type	Description
namespace	No	String	Namespace. Default value: default
action	Yes	String	Action type. <ul style="list-style-type: none"> • CREATE_TABLE: Create a table. • DELETE_TABLE: Delete a table.
table	No	String	Table name.
columnFamily	No	String	Column family.

Table 5-68 Parameters of the OBSManager node

Parameter	Mandatory	Type	Description
action	Yes	String	Action type. <ul style="list-style-type: none"> ● CREATE_PATH: Create an OBS path. ● DELETE_PATH: Delete an OBS path.
path	Yes	String	OBS path.

Table 5-69 Parameters of the RestClient node

Parameter	Mandatory	Type	Description
url	Yes	String	URL address. URL of the cloud service.
method	Yes	String	HTTP method. <ul style="list-style-type: none"> ● GET ● POST ● PUT ● DELETE
headers	No	String	HTTP message header in the format of <message header name>=<value>. Multiple message headers are separated by newlines.
body	No	String	Message body.

Table 5-70 Parameters of the SMN node

Parameter	Mandatory	Type	Description
topic	Yes	String	SMN topic URN Perform the following operations to obtain an SMN topic URN: <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Simple Message Notification and choose Topic Management > Topics from the list on the left. You can obtain the SMN topic URN in the topic list.

Parameter	Mandatory	Type	Description
subject	Yes	String	Message title, which is used as the subject of an email sent to a subscriber.
messageType	Yes	String	Message type. <ul style="list-style-type: none"> • NORMAL • STRUCTURE • TEMPLATE
message	Yes	String	Message to be sent.

Table 5-71 Parameters of the MRS Spark node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name The job name is user-defined.
resourcePath	Yes	String	OBS resource path of the custom Spark JAR package
parameters	Yes	String	Custom parameters of the Spark JAR package You can specify parameters for a custom JAR package.
input	No	String	Input path. Input data path of the MRS Spark job. The path can be an HDFS or OBS path.
output	No	String	Output path. Output data path of the MRS Spark job. The path can be an HDFS or OBS path.

Parameter	Mandatory	Type	Description
programParameter	No	String	Program parameter Multiple key-value pairs are allowed and separated by vertical bars ().

Table 5-72 Parameters of the MapReduce node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name The job name is user-defined.
resourcePath	Yes	String	Resource path.
parameters	Yes	String	Job parameter.
input	Yes	String	Input path. Input data path of the MapReduce job. The path can be an HDFS or OBS path.
output	Yes	String	Output path. Output data path of the MapReduce job. The path can be an HDFS or OBS path.

Table 5-73 Parameters of the DLI Spark node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	DLI queue name Perform the following operations to obtain the DLI queue name: 1. Log in to the management console. 2. Click Data Lake Insight and then Queue Management . You can obtain the queue name from the queue management list.
jobName	Yes	String	DLI job name. Perform the following operations to obtain the job name: 1. Log in to the management console. 2. Click Data Lake Insight and then Spark Jobs . 3. Choose Job Management . You can obtain the job name from the job management list.
resourceType	No	String	Type of the running resource of the DLI job . This parameter is optional. 1. OBS path: OBS 2. DLI package: DLIResources
jobClass	No	String	Main class name. When the application type is .jar , the main class name cannot be empty.
resourcePath	Yes	String	JAR package resource path.
jarArgs	No	String	Main-class entry parameter.
sparkConfig	No	String	Running parameter of the Spark job.

Table 5-74 BasicConfig job information

Parameter	Mandatory	Type	Description
owner	No	String	Job owner. The length cannot exceed 128 characters.
agency	No	String	Job agency

Parameter	Mandatory	Type	Description
isIgnoreWaiting	No	int	Whether to ignore the waiting time in the instance timeout duration. The value can be 0 or 1 (default). 0: The waiting time is not ignored. 1: The waiting time is ignored.
priority	No	int	Job priority. The value ranges from 0 to 2. The default value is 0 . 0 indicates a top priority, 1 indicates a medium priority, and 2 indicates a low priority.
executeUser	No	String	Job execution user. The value must be an existing username.
instanceTimeout	No	int	Instance timeout interval. The unit is minute. The value ranges from 5 to 1440. The default value is 60 .
customFields	No	Map<String,String>	User-defined field. The length cannot exceed 2048 characters.

Table 5-75 Parameters of the MRS Flink node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name The job name is user-defined.
flinkJobType	Yes	String	Flink job type, which can be FLink SQL or Flink JAR
flinkJobProcessType	Yes	String	Flink job processing mode, which can be batch or stream
scriptName	No	String	SQL script associated with the Flink SQL job
resourcePath	No	String	OBS resource path of the custom Flink JAR package

Parameter	Mandatory	Type	Description
input	No	String	Input path. Input data path of the MRS Flink job. The path can be an HDFS or OBS path.
output	No	String	Output path. Output data path of the MRS Flink job. The path can be an HDFS or OBS path.
programParameter	No	String	Program parameter Multiple key-value pairs are allowed and separated by vertical bars ().

Table 5-76 Parameters of the MRS HetuEngine node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name The job name is user-defined.
statementOrScript	Yes	String	Whether to use an SQL statement for the node or associate an SQL script with the node
scriptName	No	String	SQL script to be associated with the node
statement	No	String	Custom content of the SQL statement
Data Warehouse	Yes	String	Data connection required by HetuEngine

Parameter	Mandatory	Type	Description
Schema	Yes	String	Name of the schema to be accessed through HetuEngine
Database	Yes	String	Name of the database to be accessed through HetuEngine
Queue	No	String	Name of the resource queue required by HetuEngine

Table 5-77 Parameters of the ModelArts Train node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	<p>MRS cluster name</p> <p>Perform the following operations to obtain the MRS cluster name:</p> <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. <p>You can obtain the cluster name from the active clusters.</p>
jobName	Yes	String	<p>MRS job name</p> <p>You can set a custom value.</p>

Parameter	Mandatory	Type	Description
statementOrScript	Yes	String	Whether to use an SQL statement for the node or associate an SQL script with the node
scriptName	No	String	SQL script to be associated with the node

Table 5-78 Approver attributes

Parameter	Mandatory	Type	Description
approverName	Yes	String	Approver name

Response Parameters

None.

Example Request

Create a job named **myJob** whose type is **BATCH**, scheduling configuration is **CRON**, path in the directory tree is **/myDir**, and OBS path for storing job run logs is **obs://dlf-test-log**.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs
```

```
{
  "basicConfig": {
    "customFields": {},
    "executeUser": "",
    "instanceTimeout": 0,
    "owner": "test_user",
    "priority": 0
  },
  "directory": "/myDir",
  "logPath": "obs://dlf-test-log",
  "name": "myJob",
  "nodes": [
    {
      "failPolicy": "FAIL_CHILD",
      "location": {
        "x": "-45.5",
        "y": "-134.5"
      },
      "maxExecutionTime": 360,
      "name": "MRS_Hive_SQL",
      "pollingInterval": 20,
      "preNodeName": [],
      "properties": [
        {
          "name": "scriptName",
          "value": "test_hive_sql"
        }
      ]
    }
  ]
}
```

```
{
  {
    "name": "connectionName",
    "value": "mrs_hive_test"
  },
  {
    "name": "database",
    "value": "default"
  },
  {
    "name": "scriptArgs",
    "value": "test_var=111"
  }
],
"retryInterval": 120,
"retryTimes": 0,
"type": "HiveSQL"
}
],
"processType": "BATCH",
"schedule": {
  "type": "CRON"
}
}
```

Create a job when the review function is enabled.

POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs

```
{
  "basicConfig": {
    "customFields": {},
    "executeUser": "",
    "instanceTimeout": 0,
    "owner": "test_user",
    "priority": 0
  },
  "directory": "/myDir",
  "logPath": "obs://dlf-test-log",
  "name": "myJob",
  "nodes": [
    {
      "failPolicy": "FAIL_CHILD",
      "location": {
        "x": "-45.5",
        "y": "-134.5"
      },
      "maxExecutionTime": 360,
      "name": "MRS_Hive_SQL",
      "pollingInterval": 20,
      "preNodeName": [],
      "properties": [
        {
          "name": "scriptName",
          "value": "test_hive_sql"
        },
        {
          "name": "connectionName",
          "value": "mrs_hive_test"
        },
        {
          "name": "database",
          "value": "default"
        },
        {
          "name": "scriptArgs",
          "value": "test_var=111"
        }
      ]
    },
    {
      "retryInterval": 120,
      "retryTimes": 0,
      "type": "HiveSQL"
    }
  ]
}
```

```

    }
  ],
  "processType": "BATCH",
  "schedule": {
    "type": "CRON"
  },
  "targetStatus": "SUBMITTED",
  "approvers": [
    {
      "approverName": "userName1"
    },
    {
      "approverName": "userName2"
    }
  ]
}

```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```

{
  "error_code": "DLF.0102",
  "error_msg": "The job name already exists."
}

```

5.3.2 Modifying a Job

Function

This API is used to edit a job.

URI

- URI format
PUT /v1/{project_id}/jobs/{job_name}
- Parameter description

Table 5-79 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name

Request Parameters

Table 5-80 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, set this parameter.

Table 5-81 Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Job name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), underscores (_), and periods (.). The job name must be unique.
nodes	Yes	List<Node>	Node definition. For details, see Table 5-82 .
schedule	Yes	Schedule data structure	Scheduling configuration. For details, see Table 5-83 .
params	No	List<Param>	Job parameter definition. For details, see Table 5-84 .
directory	No	String	Path of a job in the directory tree. If the directory of the path does not exist during job creation, a directory is automatically created in the root directory /, for example, /dir/a/ .
cleanOverdueDays	No	Int	Maximum timeout duration of the job
cleanWaitingJob	No	String	Whether to clear waiting jobs
emptyRunningJob	No	String	The value can be 0 or 1 . Value 1 indicates dry run, and value 0 indicates that dry run is canceled. If this parameter is not set, the default value 0 is used.

Parameter	Mandatory	Type	Description
processType	Yes	String	Job type. <ul style="list-style-type: none"> • REAL_TIME: real-time processing • BATCH: batch processing
id	No	Long	Job ID For details about how to obtain it, see Viewing Job Details . The returned ID is the job ID.
lastUpdateUser	No	String	User who last updated the job
logPath	No	String	OBS path for storing job run logs
basicConfig	No	BasicConfig data structure	Basic job information. For details, see Table 5-107 .
targetStatus	No	String	This parameter is required if the review function is enabled. It indicates the target status of the job. The value can be SAVED , SUBMITTED , or PRODUCTION . <ul style="list-style-type: none"> • SAVED indicates that the job is saved but cannot be scheduled or executed. It can be executed only after submitted and approved. • SUBMITTED indicates that the job is automatically submitted after it is saved and can be executed after it is approved. • PRODUCTION indicates that the job can be directly executed after it is created. Note: Only the workspace administrator can create jobs in the PRODUCTION state.
approvers	No	List<JobApprover>	Job approver. This parameter is required if the review function is enabled. For details, see Table 5-111 . For details about how to enable the review function, see Review Center .

Table 5-82 Node data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Node name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), underscores (_), and periods (.). Names of the nodes in a job must be unique.
type	Yes	String	Node type. The options are as follows: <ul style="list-style-type: none"> • Hive SQL: runs Hive SQL scripts. • Spark SQL: runs Spark SQL scripts. • DWS SQL: runs DWS SQL scripts. • DLI SQL: runs DLI SQL scripts. • Shell: runs shell SQL scripts. • CDM Job: runs CDM jobs. • DIS Transfer Task: creates DIS dump tasks. • CloudTable Manager: manages CloudTable tables, including creating and deleting tables. • OBS Manager: manages OBS paths, including creating and deleting paths. • RestClient: sends REST API requests. • SMN: sends short messages or emails. • MRS Spark: runs Spark jobs of MRS. • MapReduce: runs MapReduce jobs of MRS. • MRSFlinkJob: runs FlinkJob jobs of MRS. • MRS HetuEngine: runs HetuEngine jobs of MRS. • DLI Spark: runs Spark jobs of DLF. • RDSSQL: transfers SQL statements to RDS for execution. • ModelArts Train: executes workflow jobs of ModelArts.
location	Yes	Location data structure	Location of a node on the job canvas. For details, see Table 5-85 .
preNodeName	No	List<String>	Name of the previous node on which the current node depends

Parameter	Mandatory	Type	Description
conditions	No	List<Condition>	Node execution condition. Whether the node is executed or not depends on the calculation result of the EL expression saved in the expression field of condition. For details, see Table 5-86 .
properties	Yes	List<Property>	Node properties. For details, see Table 5-92 . Each type of node has its own property definition. <ul style="list-style-type: none"> • Hive SQL: For details, see Table 5-93. • Spark SQL: For details, see Table 5-94. • DWS SQL: For details, see Table 5-95. • DLI SQL: For details, see Table 5-96. • Shell: For details, see Table 5-97. • CDM Job: For details, see Table 5-98. • DIS TransferTask: For details, see Table 5-99. • CloudTableManager: For details, see Table 5-100. • OBSManager: For details, see Table 5-101. • RESTAPI: For details, see Table 5-102. • SMN: For details, see Table 5-103. • MRS Spark: For details, see Table 5-104. • MapReduce: For details, see Table 5-105. • DLI Spark: For details, see Table 5-106. • MRS Flink: For details, see Table 5-108. • MRS HetuEngine: For details, see Table 5-109. • ModelArts Train: For details, see Table 5-110.
pollingInterval	No	Int	Interval at which node running results are checked. Unit: second; value range: 1 to 60 Default value: 10

Parameter	Mandatory	Type	Description
execTimeOutRetry	No	String	Whether to retry a node upon timeout. The default value is false .
maxExecutionTime	No	Int	Maximum execution time of a node. If a node is not executed within the maximum execution time, the node is set to the failed state. Unit: minute; value range: 5 to 1440 Default value: 60
retryTimes	No	Int	Number of the node retries. The value ranges from 1 to 100. Default value: 1
retryInterval	No	Int	Interval at which a retry is performed upon a failure. The value ranges from 5 to 600. Unit: second Default value: 120
failPolicy	No	String	Node failure policy <ul style="list-style-type: none"> ● FAIL: Terminate the execution of the current job. ● IGNORE: Continue to execute the next node. ● SUSPEND: Suspend the execution of the current job. ● FAIL_CHILD: Terminate the execution of the subsequent node. The default value is FAIL.
eventTrigger	No	Event data structure	Event trigger for the real-time job node. For details, see Table 5-89 .
cronTrigger	No	Cron data structure	Cron trigger for the real-time job node. For details, see Table 5-87 .

Table 5-83 Schedule data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Scheduling type. <ul style="list-style-type: none"> ● EXECUTE_ONCE: The job runs immediately and runs only once. ● CRON: The job runs periodically. ● EVENT: The job is triggered by events.
cron	No	Data structure	When type is set to CRON , configure the scheduling frequency and start time. For details, see Table 5-88 .
event	No	Data structure	When type is set to EVENT , configure information such as the event source. For details, see Table 5-89 .

Table 5-84 Param data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name. It contains only letters, digits, hyphens (-), and underscores (_), and can contain no more than 64 characters.
value	Yes	String	Value of the parameter. It cannot exceed 1,024 characters.
type	No	String	Type <ul style="list-style-type: none"> ● variable ● constants Default value: variable

Table 5-85 Location data structure description

Parameter	Mandatory	Type	Description
x	Yes	Int	Position of the node on the horizontal axis of the job canvas
y	Yes	Int	Position of the node on the vertical axis of the job canvas

Table 5-86 condition data structure description

Parameter	Mandatory	Type	Description
preNodeName	Yes	String	Name of the previous node on which the current node depends
expression	Yes	String	EL expression. If the calculation result of the EL expression is true, this node is executed.

Table 5-87 CronTrigger data structure description

Parameter	Mandatory	Type	Description
startTime	Yes	String	Scheduling start time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job starts to be scheduled at 23:59:59 on October 22nd, 2018.
endTime	No	String	Scheduling end time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job stops to be scheduled at 23:59:59 on October 22nd, 2018. If the end time is not set, the job will continuously be executed based on the scheduling period.
expression	Yes	String	Cron expression in the format of <second><minute><hour><day><month>><week>. For details about the value input in each field, see Table 5-90 .
expressionTime Zone	No	String	Time zone corresponding to the Cron expression, for example, GMT+8. Default value: time zone where DataArts Studio is located
period	Yes	String	Job execution interval consisting of a time and time unit Example: 1 hour, 1 day, 1 week, 1 month The value must match the value of expression .

Parameter	Mandatory	Type	Description
dependPrePeriod	No	Boolean	Indicates whether to depend on the execution result of the current job's dependent job in the previous scheduling period. Default value: false
dependJobs	No	DependJobs data structure	Job dependency configuration. For details, see Table 5-91 .
concurrent	No	Integer	Number of concurrent executions allowed

Table 5-88 Cron data structure description

Parameter	Mandatory	Type	Description
startTime	Yes	String	Scheduling start time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job starts to be scheduled at 23:59:59 on October 22nd, 2018.
endTime	No	String	Scheduling end time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job stops to be scheduled at 23:59:59 on October 22nd, 2018. If the end time is not set, the job will continuously be executed based on the scheduling period.
expression	Yes	String	Cron expression in the format of <second><minute><hour><day><month>><week>. For details about the value input in each field, see Table 5-90 .
expressionTime Zone	No	String	Time zone corresponding to the Cron expression, for example, GMT+8. Default value: time zone where DataArts Studio is located

Parameter	Mandatory	Type	Description
dependPrePeriod	No	Boolean	Indicates whether to depend on the execution result of the current job's dependent job in the previous scheduling period. Default value: false
dependJobs	No	DependJobs data structure	Job dependency configuration. For details, see Table 5-91 .

Table 5-89 Event data structure description

Parameter	Mandatory	Type	Description
eventType	Yes	String	Select the corresponding connection name and topic. When a new Kafka message is received, the job is triggered. Set this parameter to KAFKA . Event type. Currently, only newly reported data events from the DIS stream can be monitored. Each time a data record is reported, the job runs once. This parameter is set to DIS . Select the OBS path to be listened to. If new files exist in the path, scheduling is triggered. The path name can be referenced using variable Job.trigger.obsNewFiles. The prerequisite is that DIS notifications have been configured for the OBS path. Set this parameter to OBS .
channel	Yes	String	DIS stream name. Perform the following operations to obtain the stream name: <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Data Ingestion Service and select Stream Management from the left navigation pane. 3. The stream management page lists the existing streams.

Parameter	Mandatory	Type	Description
failPolicy	No	String	Job failure policy <ul style="list-style-type: none"> • SUSPEND: Suspend the event. • IGNORE: Ignore the failure and process with the next event. Default value: SUSPEND
concurrent	No	int	Number of the concurrently scheduled jobs Value range: 1 to 128 Default value: 1
readPolicy	No	String	Read policy <ul style="list-style-type: none"> • LAST: Access data from the last location. • NEW: Access data from a new location. Default value: LAST

Table 5-90 Values in the Cron expression fields

Field	Value Range	Allowed Special Character	Description
Second	0-59	, - * /	In the current version, only 0 is allowed.
Minute	0-59	, - * /	None
Hour	0-23	, - * /	None
Day	1-31	, - * ? / L W C	None
Month	1-12	, - * /	In the current version, only * is allowed.
Week	1-7	, - * ? / L C #	Starting from Sunday.

Table 5-91 DependJobs data structure description

Parameter	Mandatory	Type	Description
jobs	Yes	List<String>	A list of dependent jobs. Only the existing jobs can be depended on.

Parameter	Mandatory	Type	Description
dependPeriod	No	String	<p>Dependency period.</p> <ul style="list-style-type: none"> • SAME_PERIOD: To run a job or not depends on the execution result of its depended job in the current scheduling period. • PRE_PERIOD: To run a job or not depends on the execution result of its depended job in the previous scheduling period. <p>Default value: SAME_PERIOD</p>
dependFailPolicy	No	String	<p>Dependency job failure policy.</p> <ul style="list-style-type: none"> • FAIL: Stop the job and set the job to the failed state. • IGNORE: Continue to run the job. • SUSPEND: Suspend the job. <p>Default value: FAIL</p>

Table 5-92 Property parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Property name
value	Yes	String	Property value

Table 5-93 Parameters of the Hive SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name
database	No	String	<p>Database name</p> <p>Database in the MRS Hive. The default value is default.</p>
connectionName	No	String	Name of a connection
scriptArgs	No	String	<p>Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2.</p>

Table 5-94 Parameters of the Spark SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name
database	No	String	Database name Database in the MRS Spark SQL. The default value is default .
connectionName	No	String	Name of a connection
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-95 Parameters of the DWS SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name
database	No	String	Database name Database in DWS. The default value is postgres .
connectionName	No	String	Name of a connection
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-96 Parameters of the DLI SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name.
database	No	String	Database name Database in DLI.
connectionName	No	String	Name of a connection

Parameter	Mandatory	Type	Description
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-97 Parameters of the shell node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name
connectionName	Yes	String	Name of a connection
arguments	No	String	Shell script parameter.

Table 5-98 Parameters of the CDM Job node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	Cluster name You can obtain the cluster name from the CDM cluster list on the DataArts Migration page of the DataArts Studio console.
jobName	Yes	String	Job name To obtain the job name, access the DataArts Studio console, choose DataArts Migration , click a cluster name on the Cluster Management page, and click Job Management on the displayed page.

Table 5-99 Parameters of the DISTransferTask node

Parameter	Mandatory	Type	Description
streamName	Yes	String	DIS stream name. Perform the following operations to obtain the stream name: <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Data Ingestion Service and select Stream Management from the left navigation pane. 3. The stream management page lists the existing streams.
destinationType	Yes	String	Dump target <ul style="list-style-type: none"> • CloudTable • OBS
duplicatePolicy	Yes	String	Duplicate name policy. <ul style="list-style-type: none"> • OVERWRITE • IGNORE
configuration	Yes	Data structure	Dump configuration. For details, see the descriptions of the obs_destination_descriptor and cloudtable_destination_descriptor parameters in .

Table 5-100 Parameters of the CloudTableManager node

Parameter	Mandatory	Type	Description
namespace	No	String	Namespace Default value: default
action	Yes	String	Action type <ul style="list-style-type: none"> • CREATE_TABLE: Create a table. • DELETE_TABLE: Delete a table.
table	No	String	Table name
columnFamily	No	String	Column family

Table 5-101 Parameters of the OBSManager node

Parameter	Mandatory	Type	Description
action	Yes	String	Action type <ul style="list-style-type: none"> ● CREATE_PATH: Create an OBS path. ● DELETE_PATH: Delete an OBS path.
path	Yes	String	OBS path

Table 5-102 Parameters of the RESTAPI node

Parameter	Mandatory	Type	Description
url	Yes	String	URL URL of the cloud service.
method	Yes	String	HTTP method <ul style="list-style-type: none"> ● GET ● POST ● PUT ● DELETE
headers	No	String	HTTP message header in the format of <message header name>=<value>. Multiple message headers are separated by newlines.
body	No	String	Message body

Table 5-103 Parameters of the SMN node

Parameter	Mandatory	Type	Description
topic	Yes	String	SMN topic URN Perform the following operations to obtain an SMN topic URN: <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Simple Message Notification and choose Topic Management > Topics from the list on the left. You can obtain the SMN topic URN in the topic list.

Parameter	Mandatory	Type	Description
subject	Yes	String	Message title, which is used as the subject of an email sent to a subscriber.
messageType	Yes	String	Message type <ul style="list-style-type: none"> • NORMAL • STRUCTURE • TEMPLATE
message	Yes	String	Message to be sent.

Table 5-104 Parameters of the MRS Spark node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name The job name is user-defined.
resourcePath	Yes	String	OBS resource path of the custom Spark JAR package
parameters	Yes	String	Custom parameters of the Spark JAR package You can specify parameters for a custom JAR package.
input	No	String	Input path Input data path of the MRS Spark job. The path can be an HDFS or OBS path.
output	No	String	Output path Output data path of the MRS Spark job. The path can be an HDFS or OBS path.

Parameter	Mandatory	Type	Description
programParameter	No	String	Program parameter Multiple key-value pairs are allowed and separated by vertical bars ().

Table 5-105 Parameters of the MapReduce node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name The job name is user-defined.
resourcePath	Yes	String	Resource path
parameters	Yes	String	Job parameters
input	Yes	String	Input path Input data path of the MapReduce job. The path can be an HDFS or OBS path.
output	Yes	String	Output path Output data path of the MapReduce job. The path can be an HDFS or OBS path.

Table 5-106 Parameters of the DLI Spark node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	DLI queue name Perform the following operations to obtain the DLI queue name: <ol style="list-style-type: none">1. Log in to the management console.2. Click Data Lake Insight and then Queue Management. You can obtain the queue name from the queue management list.
jobName	Yes	String	DLI job name. Perform the following operations to obtain the job name: <ol style="list-style-type: none">1. Log in to the management console.2. Click Data Lake Insight and then Spark Jobs.3. Choose Job Management. You can obtain the job name from the job management list.
resourceType	No	String	Type of the running resource of the DLI job . This parameter is optional. <ol style="list-style-type: none">1. OBS path: OBS2. DLI package: DLIResources
jobClass	No	String	Main class name. When the application type is .jar , the main class name cannot be empty.
resourcePath	Yes	String	JAR package resource path.
jarArgs	No	String	Main-class entry parameter.
sparkConfig	No	String	Running parameter of the Spark job.

Table 5-107 BasicConfig job information

Parameter	Mandatory	Type	Description
owner	No	String	Job owner. The length cannot exceed 128 characters.

Parameter	Mandatory	Type	Description
priority	No	int	Job priority. The value ranges from 0 to 2. The default value is 0 . 0 indicates a top priority, 1 indicates a medium priority, and 2 indicates a low priority.
executeUser	No	String	Job execution user. The value must be an existing username.
instanceTimeout	No	int	Instance timeout interval. The unit is minute. The value ranges from 5 to 1440. The default value is 60 .
customFields	No	Map<String,String>	User-defined field. The length cannot exceed 2048 characters.

Table 5-108 Parameters of the MRS Flink node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name Perform the following operations to obtain the MRS cluster name: <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name The job name is user-defined.

Parameter	Mandatory	Type	Description
flinkJobType	Yes	String	Flink job type, which can be FLink SQL or Flink JAR
flinkJobProcessType	Yes	String	Flink job processing mode, which can be batch or stream
scriptName	No	String	SQL script associated with the Flink SQL job
resourcePath	No	String	OBS resource path of the custom Flink JAR package
input	No	String	Input path Input data path of the MRS Flink job. The path can be an HDFS or OBS path.
output	No	String	Output path Output data path of the MRS Flink job. The path can be an HDFS or OBS path.
programParameter	No	String	Program parameter Multiple key-value pairs are allowed and separated by vertical bars ().

Table 5-109 Parameters of the MRS HetuEngine node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name The job name is user-defined.
statementOrScript	Yes	String	Whether to use an SQL statement for the node or associate an SQL script with the node
scriptName	No	String	SQL script to be associated with the node
statement	No	String	Custom content of the SQL statement
Data Warehouse	Yes	String	Data connection required by HetuEngine

Parameter	Mandatory	Type	Description
Schema	Yes	String	Name of the schema to be accessed through HetuEngine
Database	Yes	String	Name of the database to be accessed through HetuEngine
Queue	No	String	Name of the resource queue required by HetuEngine

Table 5-110 Parameters of the ModelArts Train node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	<p>MRS cluster name</p> <p>Perform the following operations to obtain the MRS cluster name:</p> <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. <p>You can obtain the cluster name from the active clusters.</p>
jobName	Yes	String	<p>MRS job name</p> <p>You can set a custom value.</p>

Parameter	Mandatory	Type	Description
statementOrScript	Yes	String	Whether to use an SQL statement for the node or associate an SQL script with the node
scriptName	No	String	SQL script to be associated with the node

Table 5-111 Approver attributes

Parameter	Mandatory	Type	Description
approverName	Yes	String	Approver name

Example Request

Modify the attributes of a job named **myJob**. The job ID is **608627**, the last modifier is **test_user**, the job type is **BATCH**, the job scheduling configuration is **CRON**, the job path in the directory tree is **/myDir**, and the OBS path for storing job run logs is **obs://dlf-test-log**.

PUT /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/myJob

```
{
  "basicConfig": {
    "customFields": {},
    "executeUser": "",
    "instanceTimeout": 0,
    "owner": "test_user",
    "priority": 0
  },
  "directory": "/myDir",
  "id": 608627,
  "lastUpdateUser": "test_user",
  "logPath": "obs://dlf-test-log",
  "name": "myJob",
  "nodes": [
    {
      "failPolicy": "FAIL_CHILD",
      "location": {
        "x": "-45.5",
        "y": "-134.5"
      },
      "maxExecutionTime": 360,
      "name": "MRS_Hive_SQL",
      "pollingInterval": 20,
      "preNodeName": [],
      "properties": [
        {
          "name": "scriptName",
          "value": "test_hive_sql"
        },
        {
          "name": "connectionName",
          "value": "mrs_hive_test"
        }
      ]
    }
  ]
}
```

```
    },
    {
      "name": "database",
      "value": "default"
    },
    {
      "name": "scriptArgs",
      "value": "test_var=111"
    }
  ],
  "retryInterval": 120,
  "retryTimes": 0,
  "type": "HiveSQL"
}
],
"processType": "BATCH",
"schedule": {
  "type": "CRON"
}
}
```

Modify the attributes of **myJob** when the review function is enabled.

PUT /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/myJob

```
{
  "basicConfig": {
    "customFields": {},
    "executeUser": "",
    "instanceTimeout": 0,
    "owner": "test_user",
    "priority": 0
  },
  "directory": "/myDir",
  "id": 608627,
  "lastUpdateUser": "test_user",
  "logPath": "obs://dlf-test-log",
  "name": "myJob",
  "nodes": [
    {
      "failPolicy": "FAIL_CHILD",
      "location": {
        "x": "-45.5",
        "y": "-134.5"
      },
      "maxExecutionTime": 360,
      "name": "MRS_Hive_SQL",
      "pollingInterval": 20,
      "preNodeName": [],
      "properties": [
        {
          "name": "scriptName",
          "value": "test_hive_sql"
        },
        {
          "name": "connectionName",
          "value": "mrs_hive_test"
        },
        {
          "name": "database",
          "value": "default"
        },
        {
          "name": "scriptArgs",
          "value": "test_var=111"
        }
      ]
    },
    {
      "retryInterval": 120,
      "retryTimes": 0,
      "type": "HiveSQL"
    }
  ]
}
```

```

"processType": "BATCH",
"schedule": {
  "type": "CRON"
},
"approvers": [
  {
    "approverName": "userName1"
  },
  {
    "approverName": "userName2"
  }
]
}

```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```

{
  "error_code": "DLF.0100",
  "error_msg": "The job does not exists."
}

```

5.3.3 Viewing a Job List

Function

This API is used to query a list of batch or real-time jobs. A maximum of 100 jobs can be returned for each query.

URI

- URI format
GET /v1/{project_id}/jobs?
jobType={jobType}&offset={offset}&limit={limit}&jobName={jobName}&tags={tags}
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
jobType	No	String	Job type <ul style="list-style-type: none"> • REAL_TIME: real-time processing • BATCH: batch processing Default value: BATCH

Parameter	Mandatory	Type	Description
offset	No	Integer	Number of pages of the paging list. Default value: 0 The value must be greater than or equal to 0 .
limit	No	Integer	The maximum number of records on each page. The value ranges from 1 to 1,000. Default value: 10
jobName	No	String	Job name.
tags	No	String	List of job tags. Separate multiple tags with commas (,), for example, tag1,tag2,tag3 .

Request Parameters

Table 5-112 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-113 Response parameters

Parameter	Mandatory	Type	Description
total	Yes	Integer	Number of jobs.
jobs	Yes	List<Job>	Job list. For details, see Table 5-114 .

Table 5-114 Job data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Job name.
jobType	Yes	String	Job type. <ul style="list-style-type: none"> ● REAL_TIME: real-time processing ● BATCH: batch processing
owner	No	String	Job owner. The length cannot exceed 128 characters.
priority	No	int	Job priority. The value ranges from 0 to 2. The default value is 0 . 0 indicates a top priority, 1 indicates a medium priority, and 2 indicates a low priority.
status	Yes	String	Job status. When jobType is set to REAL_TIME , the status is as follows: <ul style="list-style-type: none"> ● STARTING ● NORMAL ● EXCEPTION ● STOPPING ● STOPPED When jobType is set to BATCH , the status is as follows: <ul style="list-style-type: none"> ● SCHEDULING ● STOPPED ● PAUSED
createUser	Yes	String	Job creator.
createTime	Yes	Long	Time when the job is created.
startTime	No	Long	Time when the job starts running.
endTime	No	Long	Time when the job stops running.
lastInstanceStatus	No	String	Most recent running status of the job instance. This parameter is available only when jobType is set to BATCH .
lastInstanceEndTime	No	Long	Time when the most recent job instance stops to run. This parameter is available only when jobType is set to BATCH .
lastUpdateTime	No	Long	Time when the job was last updated
lastUpdateUser	No	String	User who last updated the job

Parameter	Mandatory	Type	Description
path	No	String	Path of the job
singleNodeJobFlag	No	boolean	Whether the job is a single-task job

Example Request

Query the job list.

```
GET /v1/ff6b627b9d7b45b48f773be511c1a2b8/jobs
```

Example Response

- Success response

```
{
  "jobs": [
    {
      "createTime": 1680783636000,
      "createUser": "test_user",
      "jobType": "BATCH",
      "lastInstanceEndTime": 1682519407000,
      "lastInstanceStatus": "success",
      "lastUpdateUser": "test_user",
      "name": "myJob",
      "owner": "test_user",
      "path": "/",
      "priority": 0,
      "singleNodeJobFlag": false,
      "status": "SCHEDULING"
    }
  ],
  "total": 1
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.3051",
  "error_msg": "The request parameter is invalid."
}
```

5.3.4 Viewing Job Details

Function

This API is used to view job details.

URI

- URI format
GET /v1/{project_id}/jobs/{job_name}?version={version}
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name.
version	No	Integer	Job version number. If this parameter is specified, jobs of the specified version are queried. If this parameter is not specified, jobs of the latest version are queried.

Request Parameters

Table 5-115 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-116 Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Job name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), underscores (_), and periods (.). The job name must be unique.
nodes	Yes	List<Node>	Node definition. For details, see Table 5-117 .
schedule	Yes	Schedule data structure	Scheduling configuration. For details, see Table 5-118 .

Parameter	Mandatory	Type	Description
params	No	List<Param>	Job parameter definition. For details, see Table 5-119 .
directory	No	String	Path of a job in the directory tree. If the directory of the path does not exist during job creation, a directory is automatically created in the root directory /, for example, /dir/a/.
processType	Yes	String	Job type. <ul style="list-style-type: none">● REAL_TIME: real-time processing● BATCH: batch processing
id	No	Long	Job ID This parameter is required for querying jobs.
createTime	No	Long	Job creation time
downstreamJobs	No	String	Name of the downstream job that depends on the current job
lastUpdateUser	No	String	User who last updated the job
logPath	No	String	OBS path for storing job run logs
basicConfig	No	BasicConfig data structure	Basic job information. For details, see Table 5-142 .
description	No	String	Job description
cleanoverdueDays	No	integer	Maximum timeout duration of the job
cleanWaitingJob	No	String	Whether to clear waiting jobs
emptyRunningJob	No	String	Whether to enable dry run
version	No	String	Job version

Table 5-117 Node data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Node name. The name contains a maximum of 128 characters, including only letters, numbers, hyphens (-), underscores (_), and periods (.). Names of the nodes in a job must be unique.
type	Yes	String	Node type. The options are as follows: <ul style="list-style-type: none"> ● Hive SQL: Runs Hive SQL scripts. ● Spark SQL: Runs Spark SQL scripts. ● DWS SQL: Runs DWS SQL scripts. ● DLI SQL: Runs DLI SQL scripts. ● Shell: Runs shell SQL scripts. ● CDM Job: Runs CDM jobs. ● DIS Transfer Task: Creates DIS dump tasks. ● CloudTableManager: Manages CloudTable tables, including creating and deleting tables. ● OBS Manager: Manages OBS paths, including creating and deleting paths. ● RestClient: Sends REST API requests. ● SMN: Sends short messages or emails. ● MRS Spark: Runs Spark jobs of MRS. ● MapReduce: Runs MapReduce jobs of MRS. ● MRSFlinkJob: Runs FlinkJob jobs of MRS. ● MRS HetuEngine: Runs HetuEngine jobs of MRS. ● DLI Spark: Runs Spark jobs of DLF. ● RDSSQL: Transfers SQL statements to RDS for execution. ● Dummy: job with no node
location	Yes	Location data structure	Location of a node on the job canvas. For details, see Table 5-120 .
preNodeName	No	List<String >	Name of the previous node on which the current node depends.

Parameter	Mandatory	Type	Description
conditions	No	List<Condition>	Node execution condition. Whether the node is executed or not depends on the calculation result of the EL expression saved in the expression field of condition. For details, see Table 5-121 .
properties	Yes	List<Property>	Node properties. For details, see Table 5-127 . Each type of node has its own property definition. <ul style="list-style-type: none"> • Hive SQL: For details, see Table 5-128. • Spark SQL: For details, see Table 5-129. • DWS SQL: For details, see Table 5-130. • DLI SQL: For details, see Table 5-131. • Shell: For details, see Table 5-132. • CDM Job: For details, see Table 5-133. • DIS TransferTask: For details, see Table 5-134. • CloudTableManager: For details, see Table 5-135. • OBSManager: For details, see Table 5-136. • RESTAPI: For details, see Table 5-137. • SMN: For details, see Table 5-138. • MRS Spark: For details, see Table 5-139. • MapReduce: For details, see Table 5-140. • DLI Spark: For details, see Table 5-141. • MRS Flink: For details, see Table 5-143. • MRS HetuEngine: For details, see Table 5-144.
pollingInterval	No	Int	Interval at which node running results are checked. Unit: second; value range: 1 to 60 Default value: 10

Parameter	Mandatory	Type	Description
execTimeOutRetry	No	String	Whether to retry a node upon timeout. The default value is false .
maxExecutionTime	No	Int	Maximum execution time of a node. If a node is not executed within the maximum execution time, the node is set to the failed state. Unit: minute; value range: 5 to 1440 Default value: 60
retryTimes	No	Int	Number of the node retries. The value ranges from 0 to 5. 0 indicates no retry. Default value: 0
retryInterval	No	Int	Interval at which a retry is performed upon a failure. The value ranges from 5 to 120. Unit: second Default value: 120
failPolicy	No	String	Node failure policy. <ul style="list-style-type: none"> ● FAIL: Terminate the execution of the current job. ● IGNORE: Continue to execute the next node. ● SUSPEND: Suspend the execution of the current job. ● FAIL_CHILD: Terminate the execution of the subsequent node. The default value is FAIL.
eventTrigger	No	Event data structure	Event trigger for the real-time job node. For details, see Table 5-124 .
cronTrigger	No	Cron data structure	Cron trigger for the real-time job node. For details, see Table 5-122 .

Table 5-118 Schedule data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Scheduling type. <ul style="list-style-type: none"> ● EXECUTE_ONCE: The job runs immediately and runs only once. ● CRON: The job runs periodically. ● EVENT: The job is triggered by events.
cron	No	Data structure	When type is set to CRON , configure the scheduling frequency and start time. For details, see Table 5-123 .
event	No	Data structure	When type is set to EVENT , configure information such as the event source. For details, see Table 5-124 .

Table 5-119 Param data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name. It contains only letters, digits, hyphens (-), and underscores (_), and can contain no more than 64 characters.
value	Yes	String	Value of the parameter. It cannot exceed 1,024 characters.
type	No	String	Type <ul style="list-style-type: none"> ● variable ● constants Default value: variable

Table 5-120 Location data structure description

Parameter	Mandatory	Type	Description
x	Yes	Int	Position of the node on the horizontal axis of the job canvas.
y	Yes	Int	Position of the node on the vertical axis of the job canvas.

Table 5-121 condition data structure description

Parameter	Mandatory	Type	Description
preNodeName	Yes	String	Name of the previous node on which the current node depends.
expression	Yes	String	EL expression. If the calculation result of the EL expression is true, this node is executed.

Table 5-122 CronTrigger data structure description

Parameter	Mandatory	Type	Description
startTime	Yes	String	Scheduling start time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job starts to be scheduled at 23:59:59 on October 22nd, 2018.
endTime	No	String	Scheduling end time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job stops to be scheduled at 23:59:59 on October 22nd, 2018. If the end time is not set, the job will continuously be executed based on the scheduling period.
expression	Yes	String	Cron expression in the format of <second><minute><hour><day><month>><week>. For details about the value input in each field, see Table 5-125 .
expressionTime Zone	No	String	Time zone corresponding to the Cron expression, for example, GMT+8. Default value: time zone where DataArts Studio is located
period	Yes	String	Job execution interval consisting of a time and time unit Example: 1 hours, 1 days, 1 weeks, 1 months The value must match the value of expression .

Parameter	Mandatory	Type	Description
dependPrePeriod	No	Boolean	Indicates whether to depend on the execution result of the current job's dependent job in the previous scheduling period. Default value: false
dependJob	No	DependJob data structure	Dependent job configuration. For details, see Table 12 DependJob data structure description .
concurrent	No	Integer	Number of concurrent executions allowed

Table 5-123 Cron data structure description

Parameter	Mandatory	Type	Description
startTime	Yes	String	Scheduling start time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job starts to be scheduled at 23:59:59 on October 22nd, 2018.
endTime	No	String	Scheduling end time in the format of yyyy-MM-dd'T'HH:mm:ssZ, which is an ISO 8601 time format. For example, 2018-10-22T23:59:59+08, which indicates that a job stops to be scheduled at 23:59:59 on October 22nd, 2018. If the end time is not set, the job will continuously be executed based on the scheduling period.
expression	Yes	String	Cron expression in the format of <second><minute><hour><day><month>><week>. For details about the value input in each field, see Table 5-125 .
expressionTime Zone	No	String	Time zone corresponding to the Cron expression, for example, GMT+8. Default value: time zone where DataArts Studio is located

Parameter	Mandatory	Type	Description
dependPrePeriod	No	Boolean	Indicates whether to depend on the execution result of the current job's dependent job in the previous scheduling period. Default value: false
dependJobs	No	DependJob data structure	Dependent job configuration. For details, see Table 12 DependJob data structure description .
intervalType	No	String	Scheduling interval type. The following options are available: <ul style="list-style-type: none"> • minutes • hours • days • weeks • months • seasons • years

Table 5-124 Event data structure description

Parameter	Mandatory	Type	Description
eventType	Yes	String	Select the corresponding connection name and topic. When a new Kafka message is received, the job is triggered. Set this parameter to KAFKA . Event type. Currently, only newly reported data events from the DIS stream can be monitored. Each time a data record is reported, the job runs once. This parameter is set to DIS . Select the OBS path to be listened to. If new files exist in the path, scheduling is triggered. The path name can be referenced using variable Job.trigger.obsNewFiles. The prerequisite is that DIS notifications have been configured for the OBS path. Set this parameter to OBS .

Parameter	Mandatory	Type	Description
channel	Yes	String	DIS stream name. Perform the following operations to obtain the stream name: 1. Log in to the management console. 2. Click Data Ingestion Service and select Stream Management from the left navigation pane. 3. The stream management page lists the existing streams.
failPolicy	No	String	Job failure policy. <ul style="list-style-type: none"> • SUSPEND: Suspend the event. • IGNORE: Ignore the failure and process with the next event. Default value: SUSPEND
concurrent	No	int	Number of the concurrently scheduled jobs. Value range: 1 to 128 Default value: 1
readPolicy	No	String	Access policy. <ul style="list-style-type: none"> • LAST: Access data from the last location. • NEW: Access data from a new location. Default value: LAST

Table 5-125 Values in the Cron expression fields

Field	Value Range	Allowed Special Character	Description
Second	0-59	, - * /	In the current version, only 0 is allowed.
Minute	0-59	, - * /	None
Hour	0-23	, - * /	None
Day	1-31	, - * ? / L W C	None
Month	1-12	, - * /	In the current version, only * is allowed.

Field	Value Range	Allowed Special Character	Description
Week	1-7	, - * ? / L C #	Starting from Sunday.

Table 5-126 DependJob data structure description

Parameter	Mandatory	Type	Description
jobs	Yes	List<String>	A list of dependent jobs. Only the existing jobs can be depended on.
dependPeriod	No	String	Dependency period. <ul style="list-style-type: none"> • SAME_PERIOD: To run a job or not depends on the execution result of its depended job in the current scheduling period. • PRE_PERIOD: To run a job or not depends on the execution result of its depended job in the previous scheduling period. Default value: SAME_PERIOD
dependFailPolicy	No	String	Dependency job failure policy. <ul style="list-style-type: none"> • FAIL: Stop the job and set the job to the failed state. • IGNORE: Continue to run the job. • SUSPEND: Suspend the job. Default value: FAIL
sameWorkspaceJobs	No	DependWorkspaceJob data structure	List of dependent jobs in the current workspace. For details, see Table 5-145 .
otherWorkspaceJobs	No	DependWorkspaceJob data structure	List of dependent jobs in other workspaces. For details, see Table 5-145 .

Table 5-127 Property parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Property name

Parameter	Mandatory	Type	Description
value	Yes	String	Property value

Table 5-128 Parameters of the Hive SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name
database	No	String	Database name Database in the MRS Hive. The default value is default .
connectionName	No	String	Name of a connection
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-129 Parameters of the Spark SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name
database	No	String	Database name Database in the MRS Spark SQL. The default value is default .
connectionName	No	String	Name of a connection
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-130 Parameters of the DWS SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name

Parameter	Mandatory	Type	Description
database	No	String	Database name Database in DWS. The default value is postgres .
connectionName	No	String	Name of a connection
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-131 Parameters of the DLI SQL node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name
database	No	String	Database name Database in DLI.
connectionName	No	String	Name of a connection
scriptArgs	No	String	Script parameter in format of key and value. Multiple parameters are separated by newlines (\n), for example, key1=value1\nkey2=value2 .

Table 5-132 Parameters of the shell node

Parameter	Mandatory	Type	Description
scriptName	Yes	String	Script name
connectionName	Yes	String	Name of a connection
arguments	No	String	Shell script parameter.

Table 5-133 Parameters of the CDM Job node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	Cluster name You can obtain the cluster name from the CDM cluster list on the DataArts Migration page of the DataArts Studio console.
jobName	Yes	String	Job name To obtain the job name, access the DataArts Studio console, choose DataArts Migration , click a cluster name on the Cluster Management page, and click Job Management on the displayed page.

Table 5-134 Parameters of the DISTransferTask node

Parameter	Mandatory	Type	Description
streamName	Yes	String	DIS stream name. Perform the following operations to obtain the stream name: <ol style="list-style-type: none">1. Log in to the management console.2. Click Data Ingestion Service and select Stream Management from the left navigation pane.3. The stream management page lists the existing streams.
destinationType	Yes	String	Dump target <ul style="list-style-type: none">• CloudTable• OBS
duplicatePolicy	Yes	String	Duplicate name policy. <ul style="list-style-type: none">• OVERWRITE• IGNORE
configuration	Yes	Data structure	Dump configuration. For details, see the descriptions of the obs_destination_descriptor and cloudtable_destination_descriptor parameters in .

Table 5-135 Parameters of the CloudTableManager node

Parameter	Mandatory	Type	Description
namespace	No	String	namespaces Default value: default
action	Yes	String	Action type <ul style="list-style-type: none">● CREATE_TABLE: Create a table.● DELETE_TABLE: Delete a table.
table	No	String	Table name
columnFamily	No	String	Column family

Table 5-136 Parameters of the OBSManager node

Parameter	Mandatory	Type	Description
action	Yes	String	Action type <ul style="list-style-type: none">● CREATE_PATH: Create an OBS path.● DELETE_PATH: Delete an OBS path.
path	Yes	String	OBS path

Table 5-137 Parameters of the RESTAPI node

Parameter	Mandatory	Type	Description
url	Yes	String	URL address URL of the cloud service.
method	Yes	String	HTTP method <ul style="list-style-type: none">● GET● POST● PUT● DELETE
headers	No	String	HTTP message header in the format of <message header name>=<value>. Multiple message headers are separated by newlines.
body	No	String	Message body

Table 5-138 Parameters of the SMN node

Parameter	Mandatory	Type	Description
topic	Yes	String	SMN topic URN. Perform the following operations to obtain an SMN topic URN: <ol style="list-style-type: none">1. Log in to the management console.2. Click Simple Message Notification and choose Topic Management > Topics from the list on the left. You can obtain the SMN topic URN in the topic list.
subject	Yes	String	Message title, which is used as the subject of an email sent to a subscriber.
messageType	Yes	String	Message type <ul style="list-style-type: none">• NORMAL• STRUCTURE• TEMPLATE
message	Yes	String	Message to be sent.

Table 5-139 Parameters of the MRS Spark node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name. Perform the following operations to obtain the MRS cluster name: <ol style="list-style-type: none">1. Log in to the management console.2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name. The job name is user-defined.
resourcePath	Yes	String	OBS resource path of the custom Spark JAR package

Parameter	Mandatory	Type	Description
parameters	Yes	String	Custom parameters of the Spark JAR package You can specify parameters for a custom JAR package.
input	No	String	Input path Input data path of the MRS Spark job. The path can be an HDFS or OBS path.
output	No	String	Output path Output data path of the MRS Spark job. The path can be an HDFS or OBS path.
programParameter	No	String	Program parameter Multiple key-value pairs are allowed and separated by vertical bars ().

Table 5-140 Parameters of the MapReduce node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name. Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name. The job name is user-defined.
resourcePath	Yes	String	Resource path
parameters	Yes	String	Job parameters
input	Yes	String	Input path Input data path of the MapReduce job. The path can be an HDFS or OBS path.
output	Yes	String	Output path Output data path of the MapReduce job. The path can be an HDFS or OBS path.

Table 5-141 Parameters of the DLI Spark node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	DLI queue name Perform the following operations to obtain the DLI queue name: 1. Log in to the management console. 2. Click Data Lake Insight and then Queue Management . You can obtain the queue name from the queue management list.
jobName	Yes	String	DLI job name. Perform the following operations to obtain the job name: 1. Log in to the management console. 2. Click Data Lake Insight and then Spark Jobs . 3. Choose Job Management . You can obtain the job name from the job management list.
resourceType	No	String	Type of the running resource of the DLI job . This parameter is optional. 1. OBS path: OBS 2. DLI package: DLIResources
jobClass	No	String	Main class name. When the application type is .jar , the main class name cannot be empty.
resourcePath	Yes	String	JAR package resource path.
jarArgs	No	String	Main-class entry parameter.
sparkConfig	No	String	Running parameter of the Spark job.

Table 5-142 BasicConfig job information

Parameter	Mandatory	Type	Description
owner	No	String	Job owner. The length cannot exceed 128 characters.

Parameter	Mandatory	Type	Description
isIgnoreWaiting	No	integer	Whether to exclude waiting time from the instance timeout duration. The value can be 0 or 1 . 0 indicates that the waiting time is not excluded from the instance timeout duration, and 1 indicates that the waiting time is excluded from the instance timeout duration
priority	No	int	Job priority. The value ranges from 0 to 2. The default value is 0 . 0 indicates a top priority, 1 indicates a medium priority, and 2 indicates a low priority.
executeUser	No	String	Job execution user. The value must be an existing username.
instanceTimeout	No	int	Instance timeout interval. The unit is minute. The value ranges from 5 to 1440. The default value is 60 .
customFields	No	Map<String,String>	User-defined field. The length cannot exceed 2048 characters.
agency	No	String	Agency name
tags	No	List<String>	Job tags

Table 5-143 Parameters of the MRS Flink node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name. Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name. The job name is user-defined.
flinkJobType	Yes	String	Flink job type, which can be FLink SQL or Flink JAR
flinkJobProcessType	Yes	String	Flink job processing mode, which can be batch or stream
scriptName	No	String	SQL script associated with the Flink SQL job
resourcePath	No	String	OBS resource path of the custom Flink JAR package

Parameter	Mandatory	Type	Description
input	No	String	Input path Input data path of the MRS Flink job. The path can be an HDFS or OBS path.
output	No	String	Output path Output data path of the MRS Flink job. The path can be an HDFS or OBS path.
programParameter	No	String	Program parameter Multiple key-value pairs are allowed and separated by vertical bars ().

Table 5-144 Parameters of the MRS HetuEngine node

Parameter	Mandatory	Type	Description
clusterName	Yes	String	MRS cluster name. Perform the following operations to obtain the MRS cluster name: 1. Log in to the management console. 2. Click MapReduce Service and choose Clusters > Active Clusters from the left navigation pane. You can obtain the cluster name from the active clusters.
jobName	Yes	String	MRS job name. The job name is user-defined.
statementOrScript	Yes	String	Whether to use an SQL statement for the node or associate an SQL script with the node
scriptName	No	String	SQL script to be associated with the node
statement	No	String	Custom content of the SQL statement
Data Warehouse	Yes	String	Data connection required by HetuEngine

Parameter	Mandatory	Type	Description
Schema	Yes	String	Name of the schema to be accessed through HetuEngine
Database	Yes	String	Name of the database to be accessed through HetuEngine
Queue	No	String	Name of the resource queue required by HetuEngine

Table 5-145 DependWorkspaceJob data structure description

Parameter	Mandatory	Type	Description
workSpace	Yes	String	Workspace name
workSpaceId	No	String	Workspace ID
jobName	Yes	String	Job name
dependOnLastPeriod	No	Boolean	Whether to depend on the latest instance of an upstream job
dependType	No	String	Dependency rule
dependOnLastNPeriodValue	No	Integer	Number of previous periods on which the job depends

Example Request

View details about job **myJob**.

GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/myJob

Example Response

NOTE

If **dependencies=true** is contained in the parameters for calling the API used to query job details, the downstream jobs (first layer) that depend on the current job are returned.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/xxx_1?dependencies=true
```

xxx_1 indicates the job name.

The response message returns the downstream jobs that depends on the current job, as shown in the **downstreamJobs** field in the following example response message:

- Success response

```
{
  "basicConfig": {
    "agency": "",
    "customFields": {},
    "executeUser": "",
    "instanceTimeout": 0,
    "owner": "test_user",
    "priority": 0,
    "tags": {}
  },
  "cleanoverdueDays": "60",
  "cleanWaitingJob": "cleanup",
  "createTime": "1695642745000",
  "downstreamJobs": [
    {
      "jobId": "163240",
      "jobName": "xxx_2",
      "workSpace": "workspace_name"
    }
  ],
  "description": "",
  "emptyRunningJob": "0",
  "id": "608627",
  "lastUpdateUser": "test_user",
  "logPath": "obs://dlf-test-log",
  "name": "myJob",
  "nodes": [
    {
      "failPolicy": "FAIL_CHILD",
      "location": {
        "x": "-45.5",
        "y": "-134.5"
      },
      "maxExecutionTime": 360,
      "name": "MRS_Hive_SQL",
      "pollingInterval": 20,
      "preNodeName": [],
      "properties": [
        {
          "name": "scriptName",
          "value": "test_hive_sql"
        },
        {
          "name": "connectionName",
          "value": "mrs_hive_test"
        },
        {
          "name": "database",
          "value": "default"
        },
        {
          "name": "scriptArgs",
          "value": "test_var=111"
        }
      ]
    }
  ],
  "retryInterval": 120,
  "retryTimes": 0,
}
```



```

        "type": "HiveSQL"
    }
  ],
  "processType": "BATCH",
  "schedule": {
    "type": "CRON"
  }
}

```

- Failure response

HTTP status code 400

```

{
  "error_code": "DLF.0100",
  "error_msg": "The job does not exists."
}

```

5.3.5 Viewing a Job File

Function

This API is used to check whether there are jobs and scripts in the job file to be imported from OBS to DLF.

URI

- URI format
POST /v1/{project_id}/jobs/check-file
- Parameter description

Table 5-146 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 5-147 Request parameters

Parameter	Mandatory	Type	Description
path	Yes	String	If OBS is deployed, the job definition file is stored on OBS, for example, obs://myBucket/jobs.zip.

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-148 Response parameters

Parameter	Mandatory	Type	Description
jobs	No	List<Job>	Job information. For details, see Table 5-149 .
scripts	No	List<Script>	Script information. For details, see Table 5-150 .

Table 5-149 job data structure description

Parameter	Mandatory	Type	Description
params	No	Map<String,String>	Job parameter.
name	Yes	String	Job name.
path	Yes	String	Path of the job

Table 5-150 Data structure description of **Script**

Parameter	Mandatory	Type	Description
name	Yes	String	Script name.
path	Yes	String	Path of the script.

Example Request

Query the parameter definitions in the job file on OBS. The OBS path of the job definition file is **obs://aaaaa/DLF_myJob.zip**.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/check-file
{
  "path": "obs://aaaaa/DLF_myJob.zip"
}
```

Example Response

- Success response

```
{
  "jobs":[
    {
      "name":"test",
      "path":"/test",
      "params":{"
        "ddd":"dddd"
      }
    },
    {
      "name":"test1",
      "path":"/test",
      "params":{"
        "ddd":"dddd"
      }
    }
  ],
  "scripts":[
    {
      "name":"script1",
      "path":"/path1"
    },
    {
      "name":"script2",
      "path":"/path1"
    }
  ]
}
```

- Failure response

HTTP status code 400

```
{
  "error_code":"DLF.0815",
  "error_msg":"Fail to read OBS file."
}
```

Status Codes

See [Status Codes](#).

5.3.6 Exporting a Job

Function

This API is used to export a job, including job definitions, job dependency scripts, and CDM job definitions.

URI

- URI format

POST /v1/{project_id}/jobs/{job_name}/export

- Parameter description

Table 5-151 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name.

Request Parameters

Table 5-152 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> • If this parameter is not set, data in the default workspace is queried by default. • To query data in other workspaces, this header must be carried.

Response Parameters

The value of **Content-Type** in the response message is **application/octet-stream** that needs to be converted into a file. For details, see [Parsing a Stream in a Response Message](#). Response messages are compressed as a file. The file name format is **DLF_job_name.zip**. The file directory is as follows:

```
jobs
├── {job_name}.job
scripts
├── {script_name}.script
resources
├── {resource_name}.resource
```

[Table 5-153](#) describes the file directory parameters.

Table 5-153 Response parameters

Parameter	Mandatory	Type	Description
job_name	Yes	String	Job name.

Parameter	Mandatory	Type	Description
script_name	No	String	Name of the script that the job depends on.
resource_name	No	String	Name of the resource that the job depends on.

- {job_name}.job
The parameters in the file are the same as the request parameters of the API for creating a job. For details, see [Creating a Job](#).
- {script_name}.script
The parameters in the file are the same as the request parameters of the API for creating a resource. For details, see [Creating a Script](#).

Example Request

Export job **myJob**.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/myJob/export
```

Example Response

- Success response
HTTP status code 200
The name of the exported file is **DLF_myJob.zip**. The file structure after decompression is as follows:

```
jobs
├─myJob.job
scripts
├─CS_PROCESS_TRIP.script
├─TRIP_RAW_STANDARD.script
```

- Failure response
HTTP status code 400

```
{
  "error_code":"DLF.0100",
  "error_msg":"The job does not exists."
}
```

5.3.7 Batch Exporting Jobs

Function

This API is used to batch export jobs, including job dependency scripts and CDM job definitions.

URI

- URI format
POST /v1/{project_id}/jobs/batch-export

- Parameter description

Table 5-154 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 5-155 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> • If this parameter is not set, data in the default workspace is queried by default. • To query data in other workspaces, this header must be carried.

Table 5-156 Parameters

Parameter	Mandatory	Type	Description
jobList	Yes	List	A list of jobs to be exported. A maximum of 100 jobs can be exported at a time.
exportDepend	No	boolean	Whether to export the scripts and resources that the job depends on Default value: true

Response Parameters

The response message of batch exporting jobs is the same as that of exporting jobs. For details, see [Response Parameters](#).

Example Request

Export two jobs named **job_batch** and **job_stream**, respectively. Scripts and resources on which the job depends are exported by default.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/batch-export
{
```

```
"jobList":["job_batch","job_stream"],
"exportDepend":true
}
```

Example Response

- Success response

The value of **Content-Type** in the response message is **application/octet-stream** that needs to be converted into a file. For details, see [Parsing a Stream in a Response Message](#). The response is a compressed file named **jobs.zip**. The file structure after decompression is as follows:

```
jobs
+---job_batch
|   dws_sql.script
|   job_batch.job
\---job_stream
    job_stream.job
```

job_batch.job and **job_stream.job** are job definition files.

dws_sql.script is the DWS SQL script file used by **job_batch.job**.

- Failure response

HTTP status code 400

```
{
  "error_code":"DLF.3051",
  "error_msg":"The request parameter is invalid."
}
```

5.3.8 Importing a Job

Function

This API is used to import one or more job files from OBS to DLF.

NOTE

Before using this API, store job files in OBS buckets.

URI

- URI format
POST /v1/{project_id}/jobs/import
- Parameter description

Table 5-157 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 5-158 Request parameters

Parameter	Mandatory	Type	Description
path	Yes	String	If OBS is deployed, it refers to the OBS path for storing the job definition file. For the format of the job definition file, see the response message of the exported job, for example, obs://myBucket/jobs.zip.
params	No	Map<String,String>	Public job parameters
sameNamePolicy	No	String	Policy for specifying how to handle duplicate names. The options are as follows: <ul style="list-style-type: none">• SKIP• OVERWRITE Default value: SKIP
jobsParam	No	List<JobParam>	Job parameter. For details, see Table 5-159 .
executeUser	No	String	User that executes the job
targetStatus	No	String	This parameter is required if the review function is enabled. It indicates the target status of the job. The value can be SAVED , SUBMITTED , or PRODUCTION . <ul style="list-style-type: none">• SAVED indicates that the job is saved but cannot be scheduled or executed. It can be executed only after submitted and approved.• SUBMITTED indicates that the job is automatically submitted after it is saved and can be executed after it is approved.• PRODUCTION indicates that the job can be directly executed after it is created. Note: Only the workspace administrator can create jobs in the PRODUCTION state.

Parameter	Mandatory	Type	Description
approvers	No	List<JobApprover>	Job approver. This parameter is required if the review function is enabled. For details, see Table 5-160 . For details about how to configure the review function, see Review Center .
resources	No	List<JobResourceInfo>	This parameter is mandatory for replacing a resource. You must set the name and type of the resource to be replaced, and the name of the resource used to replace the existing resource. For details, see Table 5-161 .

Table 5-159 JobParam parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Job name
params	No	Map<String,String>	Job parameters

Table 5-160 Approver attributes

Parameter	Mandatory	Type	Description
approverName	Yes	String	Approver name

Table 5-161 Resource table parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Resource name

Parameter	Mandatory	Type	Description
type	Yes	String	Resource type. The following resource types are supported: DWS_CONNECTION, DIS_STREAM, CDM_CLUSTER, MRS_CLUSTER, MRS_HIVE_CONNECTION, MRS_SPARK_CONNECTION, GES_GRAPH, ROMA_INSTANCE, TICS_INSTANCE, and DRS_TASK
replace	No	String	Name of the resource used to replace the existing resource

Response

Table 5-162 Response parameter

Parameter	Mandatory	Type	Description
taskId	Yes	String	ID of the task. Used to call the API for querying system tasks to obtain the import status.

Example Request

Import jobs from OBS to DLF. If there are jobs and scripts with the same name, overwrite them. The definition file of the imported job is in the **obs://aaaaa/job_batch.zip** OBS path, and the job name is **job_batch**.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/import
```

```
{
  "path": "obs://aaaaa/job_batch.zip",
  "jobsParam": [
    {
      "name": "job_batch"
    }
  ]
}
```

Import jobs from OBS to DLF when the review function is enabled. If there are jobs and scripts with the same name, overwrite them.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/import
{
  "path": "obs://aaaaa/job_batch.zip",
  "jobsParam": [
    {
      "name": "job_batch"
    }
  ],
  "targetStatus": "SUBMITTED",
  "approvers": [
    {
      "approverName": "userName1"
    },
    {
      "approverName": "userName2"
    }
  ]
}
```

Example Response

- Success response

HTTP status code 200

```
{
  "taskId": "008aae2e675933c7016759418e870000"
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.0815",
  "error_msg": "Fail to read OBS file."
}
```

5.3.9 Executing a Job Immediately

Function

This API is used to execute a job immediately and check whether the job can be executed successfully.

URI

- URI format
POST /v1/{project_id}/jobs/{job_name}/run-immediate
- Parameter description

Table 5-163 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name

Request Parameters

Table 5-164 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none">• If this parameter is not set, data in the default workspace is queried by default.• To query data in other workspaces, this header must be carried.

Table 5-165 Parameter

Parameter	Mandatory	Type	Description
jobParams	No	List<JobParam>	Parameters for executing a job immediately

Table 5-166 JobParam data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the parameter. It cannot exceed 64 characters.
value	Yes	String	Value of the parameter. It cannot exceed 1,024 characters.
type	No	String	Parameter type <ul style="list-style-type: none">• variable• constants

Response Parameters

Table 5-167 Response parameter

Parameter	Mandatory	Type	Description
instanceId	Yes	Long	Job instance ID

Example Request

Execute the **myJob** job once. The job contains parameter **aaa** with value **111** and parameter **bbb** with value **222**.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/myJob/run-immediate
{
  "jobParams":[
    {
      "name":"aaa",
      "value":"111"
    },
    {
      "name":"bbb",
      "value":"222"
    }
  ]
}
```

Example Response

- Success response

```
{
  "instanceId":132343
}
```

- Failure response

HTTP status code 400

```
{
  "error_code":"DLF.0100",
  "error_msg":"The job does not exists."
}
```

5.3.10 Starting a Job

Function

This API is used to start a job.

URI

- URI format
POST /v1/{project_id}/jobs/{job_name}/start
- Parameter description

Table 5-168 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name

Request Parameters

Table 5-169 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none">• If this parameter is not set, data in the default workspace is queried by default.• To query data in other workspaces, this header must be carried.

Table 5-170 Parameters

Parameter	Mandatory	Type	Description
jobParams	No	List<JobParam>	Parameter for starting the job
start_date	No	Long	Start date, for example, 20241030
ignore_first_self_dep	No	boolean	Whether to ignore first-day self-dependency

Table 5-171 JobParam data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the parameter. It cannot exceed 64 characters.
value	Yes	String	Value of the parameter. It cannot exceed 1,024 characters.
paramType	No	String	Parameter type <ul style="list-style-type: none">• variable• constants

Response Parameters

None.

Example Request

Start job **myJob**.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/myJob/start
{
  "jobParams": [
    {
      "name": "string",
      "value": "string",
      "paramType": "variable"
    }
  ]
}
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.0100",
  "error_msg": "The job does not exists."
}
```

5.3.11 Stopping a Job

Function

This API is used to stop a job.

URI

- URI format
POST /v1/{project_id}/jobs/{job_name}/stop
- Parameter description

Table 5-172 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name

Request Parameters

Table 5-173 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

None.

Example Request

Stops job **myJob**.

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/myJob/stop
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.0100",
  "error_msg": "The job does not exists."
}
```

5.3.12 Deleting a Job

Function

This API is used to delete a job in DataArts Factory. A job that is being scheduled cannot be deleted. To delete such a job, stop it first.

URI

- URI format
DELETE /v1/{project_id}/jobs/{job_name}
- Parameter description

Table 5-174 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name

Request Parameters

Table 5-175 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none">If this parameter is not set, data in the default workspace is queried by default.To query data in other workspaces, this header must be carried.

Table 5-176 Parameters

Parameter	Mandatory	Type	Description
approvers	No	List<JobApprover>	Job approver. This parameter is required if the review function is enabled. For details, see Table 5-177 .

Table 5-177 Approver attributes

Parameter	Mandatory	Type	Description
approverName	Yes	String	Approver name

Response Parameters

None.

Example Request

```
DELETE /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/joba
```

Delete a job when the review function is enabled.

```
DELETE /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/joba
{
  "approvers": [
    {
      "approverName": "userName1"
    },
    {
      "approverName": "userName2"
    }
  ]
}
```

Example Response

- Response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.0100",
  "error_msg": "The job does not exists."
}
```

Status Codes

See [Status Codes](#).

5.3.13 Stopping a Job Instance

Function

This API is used to stop a specific job instance. A job instance can be stopped only when it is in the running state.

URI

- URI format
POST /v1/{project_id}/jobs/{job_name}/instances/{instance_id}/stop
- Parameter description

Table 5-178 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name

Parameter	Mandatory	Type	Description
instance_id	Yes	Long	Job instance ID. For details about how to obtain it, see Viewing a Job Instance List .

Request Parameters

Table 5-179 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

None.

Example Request

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/job_batch/instances/34765/stop
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.0137",
  "error_msg": "Job instance does not exist."
}
```

5.3.14 Rerunning a Job Instance

Function

This API is used to rerun a specific job instance. A job instance can be rerun only when it is in the successful, failed, or canceled state.

URI

- URI format
POST /v1/{project_id}/jobs/{job_name}/instances/{instance_id}/restart
- Parameter description

Table 5-180 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name
instance_id	Yes	Long	Job instance ID. For details about how to obtain it, see Viewing a Job Instance List .

Request Parameters

Table 5-181 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> • If this parameter is not set, data in the default workspace is queried by default. • To query data in other workspaces, this header must be carried.

Table 5-182 Parameters

Parameter	Mandatory	Type	Description
retry_location	No	String	Where the job rerun starts. The value can be error_node (error node), first_node (first node), or specified_node (a specified node). The default value is first_node .
job_parameter_version	No	String	Parameters to use. The value can be original_version (parameters of the original job) or latest_version (parameters of the latest job).

Parameter	Mandatory	Type	Description
ignore_obs_monitor	No	boolean	Whether to ignore OBS listening
node_name	No	String	Name of the node from which the job rerun starts when retry_location is set to specified_node

Response Parameters

None.

Example Request

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/job_batch/instances/34765/restart
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.0137",
  "error_msg": "Job instance does not exist."
}
```

5.3.15 Viewing Running Status of a Real-Time Job

Function

This API is used to view running status of a real-time job.

URI

- URI format
GET /v1/{project_id}/jobs/{job_name}/status
- Parameter description

Table 5-183 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name

Request Parameters

Table 5-184 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-185 Response parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Solution name
nodes	No	List	Node status list
status	No	String	Job status <ul style="list-style-type: none"> STARTING: The job is starting. NORMAL: The job is normal. EXCEPTION: The job is abnormal. STOPPING: The job is being stopped. STOPPED: The job is stopped.
startTime	Yes	Date	Start time
endTime	No	Date	End time
lastUpdateTime	No	Date	Last update time

Table 5-186 Data structure description of **nodes**

Parameter	Mandatory	Type	Description
name	Yes	String	Node name

Parameter	Mandatory	Type	Description
status	No	String	Node status. <ul style="list-style-type: none"> ● STARTING: The node is starting. ● NORMAL: The node is normal. ● EXCEPTION: The node is abnormal. ● STOPPING: The node is being stopped. ● STOPPED: The node is stopped.
logPath	No	String	Path for storing node run logs.
type	Yes	String	Node type <ul style="list-style-type: none"> ● Hive SQL: runs Hive SQL scripts. ● Spark SQL: runs Spark SQL scripts. ● DWS SQL: runs DWS SQL scripts. ● DLI SQL: runs DLI SQL scripts. ● Shell: runs shell SQL scripts. ● CDM Job: runs CDM jobs. ● DIS Transfer Task: creates DIS dump tasks. ● CS Job: creates and starts CloudStream jobs. ● CloudTable Manager: manages CloudTable tables, including creating and deleting tables. ● OBS Manager: manages OBS paths, including creating and deleting paths. ● RESTAPI: sends REST API requests. ● SMN: sends short messages or emails. ● MRS Spark: runs Spark jobs of MRS. ● MapReduce: runs MapReduce jobs of MRS.

Example Request

View running status of real-time job **job_sms** and the running status of each node in the job.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/job_sms/status
```

Example Response

- Success response

```
{
  "name": "job_sms",
  "nodes": [
```

```

    {
      "bufferRecords": 0,
      "jobInstanceId": 0,
      "lastInstanceStatus": "waiting",
      "name": "MRS_Flink_Job_8635",
      "speed": 0,
      "totalGetBytes": 0,
      "totalGetRecords": 0,
      "totalPutBytes": 0,
      "totalPutRecords": 0
    }
  ],
  "status": "NORMAL"
}

```

- Failure response

HTTP status code 400

```

{
  "error_code": "DLF0100",
  "error_msg": "The job does not exists."
}

```

5.3.16 Viewing a Job Instance List

Function

This API is used to view a job instance list.

A job instance is generated each time you run a batch job for which periodic scheduling or event-based scheduling is configured. If a real-time job contains a node for which periodic scheduling or event-based scheduling is configured, you can call this API to view the instance list of the subjobs associated with the node. The format of the **jobName** parameter is *real-time job name_node name*.

URI

- URI format

GET /v1/{project_id}/jobs/instances/detail?

jobName={jobName}&minPlanTime={minPlanTime}&maxPlanTime={maxPlanTime}&limit={limit}&offset={offset}&status={status}&instanceType={instanceType}&preciseQuery={preciseQuery}

- Parameter description

Table 5-187 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Parameter	Mandatory	Type	Description
jobName	No	String	Job name. <ul style="list-style-type: none"> If you want to query the instance list of a specific batch job, jobName is the batch job name. If you want to query sub-jobs associated with a node in a real-time job, the jobName format is <i>real-time job name _ node name</i>.
minPlanTime	No	Long	Minimum planned job execution time in milliseconds. Job instances whose start time is later than this time are returned. The default value is 00:00:00 of the current day.
maxPlanTime	No	Long	Maximum planned job execution time in milliseconds. Job instances whose start time is earlier than this time are returned.
limit	No	int	The maximum number of records on each page. The parameter value ranges from 1 to 1000. Default value: 10
offset	No	int	Start page of the paging list. The default value is 0 . The value must be greater than or equal to 0 .
status	No	String	Job instance status. <ul style="list-style-type: none"> waiting running success fail running-exception pause manual-stop
instanceType	No	int	Job scheduling modes. <ul style="list-style-type: none"> 0: General scheduling 2: Manual scheduling 5: PatchData 6: Subjob scheduling 7: Schedule once

Parameter	Mandatory	Type	Description
preciseQuery	No	boolean	Whether exact search of jobs by name is supported

Request Parameters

Table 5-188 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-189 Response parameters

Parameter	Mandatory	Type	Description
total	Yes	int	Total number of records.
instances	Yes	List<Instance>	Job instance status. For details, see Table 5-190 .

Table 5-190 instances parameters

Parameter	Mandatory	Type	Description
jobName	Yes	String	Job name. When you view the instance list of a specified batch job, jobName is the name of the batch job. When you view the subjobs associated with a node in a real-time job, jobName is in format of <i>real-time job name_node name</i> .
jobId	No	Long	Job ID

Parameter	Mandatory	Type	Description
jobInstanceName	Yes	String	Name of a job instance recorded by the log, rather than the name defined during job creation
status	Yes	String	Job instance status. <ul style="list-style-type: none"> • waiting • running • success • fail • running-exception • pause • manual-stop
planTime	Yes	Long	Planned execution time of the job instance
startTime	Yes	Long	Actual execution start time of the job instance
endTime	No	Long	Actual execution end time of the job instance
executeTime	No	Long	Execution duration in milliseconds
instanceId	Yes	Long	Job instance ID, which is used to query job instance details.
submitTime	Yes	Long	Time when a job is submitted.
instanceType	Yes	int	Job scheduling modes. <ul style="list-style-type: none"> • 0: General scheduling • 2: Manual scheduling • 5: PatchData • 6: Subjob scheduling • 7: Schedule once
forceSuccess	No	boolean	Whether the job instance status is forcibly successful Default value: false
ignoreSuccess	No	boolean	Whether the job instance status is failure ignored Default value: false
version	No	int	Job instance version

Example Request

View the instance list of batch job **job_batch**.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/instances/detail?jobName=job_batch
```

Example Response

Success response

```
{
  "total": 2,
  "instances": [
    {
      "endTime": 1551671598000,
      "executeTime": 0.3,
      "forceSuccess": false,
      "ignoreSuccess": false,
      "instanceId": 34765,
      "instanceType": 2,
      "jobId": 608627,
      "jobName": "job_batch",
      "jobInstanceName": "job_batch",
      "planTime": 1551671580000,
      "startTime": 1551671580000,
      "status": "success",
      "submitTime": 1550910278706,
      "version": 1
    },
    {
      "endTime": 1551671538000,
      "executeTime": 0.3,
      "forceSuccess": false,
      "ignoreSuccess": false,
      "instanceId": 34764,
      "instanceType": 5,
      "jobId": 608627,
      "jobName": "job_batch",
      "jobInstanceName": "job_batch",
      "planTime": 1551671520000,
      "startTime": 1551671521000,
      "status": "success",
      "submitTime": 1550910278706,
      "version": 1
    }
  ]
}
```

5.3.17 Viewing Job Instance Details

Function

This API is used to view job instance details, including the execution information about each node in a job instance.

URI

- URI format
GET /v1/{project_id}/jobs/{job_name}/instances/{instance_id}
- Parameter description

Table 5-191 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name
instance_id	Yes	string	Job instance ID. For details about how to obtain the ID, see the response parameters in Viewing a Job Instance List .

Request Parameters

Table 5-192 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-193 Response parameters

Parameter	Mandatory	Type	Description
jobName	Yes	String	Job name
instanceId	Yes	Long	Job instance ID

Parameter	Mandatory	Type	Description
status	Yes	String	Job instance status. <ul style="list-style-type: none"> • waiting • running • success • fail • running-exception • pause • manual-stop
planTime	Yes	Long	Planned execution time of the job instance
startTime	Yes	Long	Actual execution start time of the job instance
endTime	No	Long	Actual execution end time of the job instance
executeTime	No	Long	Execution duration in milliseconds
total	Yes	Integer	Total number of node records
nodes	Yes	List<Node>	Node instance status. For details, see Table 5-194 .
instanceType	Yes	Integer	Job scheduling modes. <ul style="list-style-type: none"> • 0: General scheduling • 2: Manual scheduling • 5: PatchData • 6: Subjob scheduling • 7: Schedule once
forceSuccess	No	boolean	Whether the job instance status is forcibly successful Default value: false
ignoreSuccess	No	boolean	Whether the job instance status is failure ignored Default value: false

Table 5-194 Node parameters

Parameter	Mandatory	Type	Description
nodeName	Yes	String	Node name

Parameter	Mandatory	Type	Description
status	Yes	String	Node status. <ul style="list-style-type: none">• waiting• running• success• fail• skip• pause• manual-stop
queue	Yes	String	DLI resource queue name NOTE Only the DLI SQL or DLI SPARK operator returns the DLI queue name in the response.
planTime	Yes	Long	Planned execution time of the job instance
startTime	Yes	Long	Actual execution start time of the node
endTime	No	Long	Actual execution end time of the node

Parameter	Mandatory	Type	Description
type	Yes	String	Node type. <ul style="list-style-type: none">• Hive SQL: runs Hive SQL scripts.• Spark SQL: runs Spark SQL scripts.• DWS SQL: runs DWS SQL scripts.• DLI SQL: runs DLI SQL scripts.• Shell: runs shell SQL scripts.• CDM Job: runs CDM jobs.• DIS Transfer Task: creates DIS dump tasks.• CloudTableManager: manages CloudTable tables, including creating and deleting tables.• OBS Manager: manages OBS paths, including creating and deleting paths.• RestClient: sends REST API requests.• SMN: sends short messages or emails.• MRS Spark: runs Spark jobs of MRS.• MapReduce: Runs MapReduce jobs of MRS.• MRSFlinkJob: runs FlinkJob jobs of MRS.• MRS HetuEngine: runs HetuEngine jobs of MRS.• DLI Spark: runs Spark jobs of DLF.• RDSSQL: transfers SQL statements to RDS for execution.• ModelArts Train: executes workflow jobs of ModelArts.
retryTimes	No	Integer	Number of attempts upon a failure
instanceId	Yes	Long	Job instance ID
inputRowCount	No	Long	Rows of input data
speed	No	number	Write speed (row/second)
logPath	No	String	Path for storing node execution logs

Example Request

View details about the instance whose ID is 34765 in job **job_batch**.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/jobs/job_batch/instances/34765
```


Example Response

- Success response

```
{
  "jobName": "job_batch",
  "instanceId": 34765,
  "instanceType": 2,
  "status": "fail",
  "planTime": 1551425326540,
  "startTime": 1551425327000,
  "endTime": 1551425387000,
  "executeTime": 1,
  "forceSuccess": false,
  "ignoreSuccess": false,
  "total": 2,
  "nodes": [
    {
      "endTime": 1551671590000,
      "inputRowCount": 0,
      "instanceId": 34765,
      "nodeName": "Dummy_8556",
      "queue": "dlf_notdelete",
      "planTime": 1551671580000,
      "retryTimes": 0,
      "startTime": 1551671584000,
      "status": "success",
      "type": "Dummy"
    },
    {
      "endTime": 1551671598000,
      "inputRowCount": 0,
      "instanceId": 34765,
      "logPath": "obs://dlf-test-log/job_batch/2019-03-04 11_53_00.000/error/error.job",
      "nodeName": "error",
      "planTime": 1551671580000,
      "retryTimes": 0,
      "startTime": 1551671594000,
      "status": "success",
      "type": "DWS SQL"
    }
  ]
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF0137",
  "error_msg": "Job instance does not exist."
}
```

5.3.18 Querying System Task Details

Function

This API is used to query details about asynchronous tasks.

URI

- URI format
GET /v1/{project_id}/system-tasks/{task_id}
- Parameter description

Table 5-195 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
task_id	Yes	String	Task ID. For details about how to obtain the ID, see the response parameters in Importing a Job .

Request Parameters

Table 5-196 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none">If this parameter is not set, data in the default workspace is queried by default.To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-197 Response parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Task ID
name	Yes	String	Task name
startTime	Yes	Long	Start time
endTime	No	Long	End time
lastUpdate	Yes	Long	Update time
status	Yes	String	Status <ul style="list-style-type: none">RUNNINGSUCCESSFULFAILED
projectId	No	String	Project ID

Parameter	Mandatory	Type	Description
subtasks	No	List<SubTask>	Subtask. For details, see Table 5-198 .

Table 5-198 subtasks parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Subtask ID
name	Yes	String	Subtask name
lastUpdate	Yes	Long	Update time
status	Yes	String	Status <ul style="list-style-type: none"> ● RUNNING ● SUCCESSFUL ● FAILED
taskId	No	String	Task information

Example Request

Query the task for exporting a job.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/systemTasks/008aae2e675d3bcb01675d40ab3f0005
```

Example Response

- Success response

```
{
  "endTime": 1544777083000,
  "id": "008aae2e67abe2ff0167abe3a28f0000",
  "lastUpdate": 1544777083000,
  "name": "Import the job from obs://aaaaa/job_batch.zip.",
  "projectId": "b384b9e9ab9b4ee8994c8633aabc9505",
  "startTime": 1544777081000,
  "status": "SUCCESSFUL",
  "subtasks": [
    {
      "id": "008aae2e67abe2ff0167abe3a7e70002",
      "lastUpdate": 1544777083000,
      "name": "Import the job_batch job.",
      "status": "SUCCESSFUL",
      "taskId": "008aae2e675d3bcb01675d40ab3f0005"
    }
  ]
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.20810",
}
```

```
"error_msg": "Task[008aae2e675d3bcb01675d40ab3f0005] does not exist"  
}
```

5.4 Connection Management APIs (To Be Taken Offline)

5.4.1 Creating a Connection (to Be Taken Offline)

NOTE

The connection management capability is provided by Management Center. This API is no longer maintained. You are advised to use the APIs in Management Center for connection management.

Function

This API is used to create a connection. The supported connection types include DWS, DLI, Spark SQL, RDS, CloudTable, and Hive.

URI

- URI format
POST /v1/{project_id}/connections
- Parameter description

Table 5-199 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 5-200 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none">• If this parameter is not set, data in the default workspace is queried by default.• To query data in other workspaces, this header must be carried.

Table 5-201 Connection parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Connection name. The name contains a maximum of 100 characters, including only letters, numbers, hyphens (-), and underscores (_). The connection name must be unique.
type	Yes	String	Connection type. <ul style="list-style-type: none">• DWS• DLI• SparkSQL• HIVE• RDS• CloudTable• HOST
config	No	Map<String,String>	Connection configuration item. The configuration item varies with the connection type. You do not need to set the config parameter for DLI connections. For other types of connections, see the description of connection configuration items.
description	No	String	Description of the connection. The description contains a maximum of 255 characters.

Table 5-202 DWS connection parameters

Parameter	Mandatory	Type	Description
clusterName	No	String	<p>Name of a DWS cluster.</p> <p>Perform the following operations to obtain the DWS cluster name:</p> <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Data Warehouse Service and select Cluster Management from the list on the left. <p>You can obtain the cluster name from the cluster management list.</p> <p>By default, this parameter is left blank.</p>
ip	No	String	<p>IP address for accessing the DWS cluster.</p> <p>Perform the following operations to obtain the DWS access address:</p> <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Data Warehouse Service and select Cluster Management from the list on the left. 3. Click the cluster name. The basic information page of the cluster is displayed. <p>You can obtain the private network IP address on the Database Attribute tab page. If there are multiple IP addresses, select the first IP address.</p> <p>By default, this parameter is left blank.</p>
port	No	String	<p>Port for accessing the DWS cluster.</p> <p>Perform the following operations to obtain the DWS access port:</p> <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Data Warehouse Service and select Cluster Management from the list on the left. 3. Click the cluster name. The basic information page of the cluster is displayed. <p>You can obtain the port information on the Database Attribute tab page.</p> <p>For example, set port to 8000. By default, this parameter is left blank.</p>

Parameter	Mandatory	Type	Description
userName	Yes	String	Username of the database. This username is the username entered during the creation of the DWS cluster.
password	Yes	String	Password for accessing the database. This password is the password entered during the creation of the DWS cluster.
sslEnable	Yes	boolean	Specifies whether to enable the SSL connection.
kmsKey	Yes	String	Name of a KMS key. Perform the following operations to obtain the key: <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Key Management Service and select Key Management Service from the list on the left. You can obtain the key name from the key list.
agentName	Yes	String	Name of a CDM cluster. You can obtain the cluster name from the CDM cluster list on the DataArts Migration page of the DataArts Studio console.

Table 5-203 Spark SQL connection parameters

Parameter	Mandatory	Type	Description
clusterName	Yes	String	Name of an MRS cluster. Perform the following operations to obtain the MRS cluster name: <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click MapReduce Service and select Active Clusters from the list on the left. You can obtain the cluster name from the active clusters, such as mrsCluster1 .

Parameter	Mandatory	Type	Description
connectionMethod	Yes	String	Method to connect. <ul style="list-style-type: none"> • agent: connected through an agent. • direct: connected directly.
userName	No	String	Username of the MRS cluster. This parameter is mandatory when connectionMethod is set to agent .
password	No	String	Password for accessing the MRS cluster. This parameter is mandatory when connectionMethod is set to agent .
agentName	No	String	Name of a CDM cluster. This parameter is mandatory when connectionMethod is set to agent . You can obtain the cluster name from the CDM cluster list on the DataArts Migration page of the DataArts Studio console.
kmsKey	No	String	Name of a KMS key. This parameter is mandatory when connectionMethod is set to agent . Perform the following operations to obtain the key: <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Key Management Service and select Key Management Service from the list on the left. You can obtain the key name from the key list.

Table 5-204 Hive connection parameters

Parameter	Mandatory	Type	Description
clusterName	Yes	String	Name of an MRS cluster, for example, mrsCluster1 .
connectionMethod	Yes	String	Method to connect. <ul style="list-style-type: none"> • agent: connected through an agent. • direct: connected directly.

Parameter	Mandatory	Type	Description
userName	No	String	Username of the MRS cluster. This parameter is mandatory when connectionMethod is set to agent .
password	No	String	Password for accessing the MRS cluster. This parameter is mandatory when connectionMethod is set to agent .
agentName	No	String	Name of a CDM cluster. This parameter is mandatory when connectionMethod is set to agent . You can obtain the cluster name from the CDM cluster list on the DataArts Migration page of the DataArts Studio console.
kmsKey	No	String	Name of a KMS key. This parameter is mandatory when connectionMethod is set to agent . Perform the following operations to obtain the key: <ol style="list-style-type: none">1. Log in to the management console.2. Click Key Management Service and select Key Management Service from the list on the left. You can obtain the key name from the key list.

Table 5-205 RDS connection parameters

Parameter	Mandatory	Type	Description
ip	Yes	String	<p>Address for accessing RDS.</p> <p>Perform the following operations to obtain the RDS access address:</p> <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Relational Database Service and select Instance Management from the list on the left. 3. Click the name of an instance. The basic information page of the instance is displayed. <p>You can obtain the IP address on the Connection Information tab.</p>
port	Yes	String	<p>Port for accessing RDS.</p> <p>Perform the following operations to obtain the RDS access port:</p> <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Relational Database Service and select Instance Management from the list on the left. 3. Click the name of an instance. The basic information page of the instance is displayed. <p>You can obtain the database port on the Connection Information tab page.</p>
userName	Yes	String	<p>Username of the database. This username is the username entered during the creation of the cluster.</p>
password	Yes	String	<p>Password for accessing the database. This password is the password entered during the creation of the cluster.</p>
kmsKey	Yes	String	<p>Name of a KMS key.</p> <p>Perform the following operations to obtain the key:</p> <ol style="list-style-type: none"> 1. Log in to the management console. 2. Click Key Management Service and select Key Management Service from the list on the left. <p>You can obtain the key name from the key list.</p>

Parameter	Mandatory	Type	Description
agentName	Yes	String	Name of a CDM cluster. You can obtain the cluster name from the CDM cluster list on the DataArts Migration page of the DataArts Studio console.
driverName	Yes	String	Name of the driver. <ul style="list-style-type: none"> com.mysql.jdbc.Driver org.postgresql.Driver
driverPath	Yes	String	Path of the driver on OBS.

Table 5-206 CloudTable connection parameters

Parameter	Mandatory	Type	Description
clusterName	Yes	String	Name of a CloudTable cluster. Perform the following operations to obtain the cluster name: <ol style="list-style-type: none"> Log in to the management console. Click CloudTable Service and select Cluster Mode from the list on the left. You can obtain the cluster name from the cluster list.

Table 5-207 HOST connection parameters

Parameter	Mandatory	Type	Description
ip	Yes	String	IP address of the host
port	Yes	String	SSH port number of the host
userName	Yes	String	Username for logging in to the host
password	Yes	String	Password for logging in to the host

Parameter	Mandatory	Type	Description
agentName	Yes	String	Name of a CDM cluster. You can obtain the cluster name from the CDM cluster list on the DataArts Migration page of the DataArts Studio console.
kmsKey	Yes	String	Name of a KMS key. Perform the following operations to obtain the key: <ol style="list-style-type: none">1. Log in to the management console.2. Click Key Management Service and select Key Management Service from the list on the left. You can obtain the key name from the key list.

Response Parameters

None.

Example Request

```
Create a connection.
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/connections
{
  "name":"connection1",
  "type":"DWS",
  "config":{
    "clusterName":"test",
    "userName":"dbadmin",
    "password":"*****",
    "kmsKey":"cdm-dlf",
    "agentName":"cdm-donotdelete",
    "sslEnable":false
  }
}
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code":"DLF.6309",
  "error_msg":"The name already exists."
}
```

Status Codes

See [Status Codes](#).

5.4.2 Querying a Connection List (to Be Taken Offline)

NOTE

The connection management capability is provided by Management Center. This API is no longer maintained. You are advised to use the APIs in Management Center for connection management.

Function

This API is used to query a connection list.

URI

- URI format
GET /v1/{project_id}/connections?
offset={offset}&limit={limit}&connectionName={connectionName}
- Parameter description

Table 5-208 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
offset	No	Integer	The value is no less than 0 . The default value is 0 .
limit	No	Integer	The maximum number of records on each page. Value range: 1 to 100 Default value: 10
connectionName	No	String	Name of a connection.

Request Parameters

Table 5-209 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Parameter	Mandatory	Type	Description
total	Yes	Integer	The total number of connections.
connections	Yes	List< Connections >	Connection list.

Table 5-210 connections parameters

Parameter	Mandatory	Type	Description
name	Yes	String	<p>Connection name. The name contains a maximum of 100 characters, including only letters, numbers, hyphens (-), and underscores (_). The connection name must be unique.</p>
type	Yes	String	<p>Connection type.</p> <ul style="list-style-type: none"> DWS DLI SparkSQL HIVE RDS CloudTable HOST

Parameter	Mandatory	Type	Description
config	No	Map<String,String>	Connection configuration item. The configuration item varies with the connection type. You do not need to set the config parameter for DLI connections. For other types of connections, see the description of connection configuration items.
description	No	String	Description of the connection. The description contains a maximum of 255 characters.

Example Request

Query connections.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/connections
```

Example Response

- Success response

HTTP status code 200

```
{
  "total":1,
  "connections":[
    {
      "name":"connection1",
      "type":"DWS",
      "config":{
        "clusterName":"test",
        "userName":"dbadmin",
        "password":"*****",
        "kmsKey":"cdm-dlf",
        "agentName":"cdm-donotdelete",
        "sslEnable":false
      }
    }
  ]
}
```

- Failure response

HTTP status code 400

```
{
  "error_code":"DLF.3051",
  "error_msg":"The request parameter is invalid."
}
```

5.4.3 Querying Connection Details (to Be Taken Offline)

NOTE

The connection management capability is provided by Management Center. This API is no longer maintained. You are advised to use the APIs in Management Center for connection management.

Function

This API is used to query details of a connection.

URI

- URI format
GET /v1/{project_id}/connections/{connection_name}
- Parameter description

Table 5-211 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
connection_name	Yes	String	Name of a connection.

Request Parameters

Table 5-212 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none">• If this parameter is not set, data in the default workspace is queried by default.• To query data in other workspaces, this header must be carried.

Response Parameters

Table 5-213 Connection parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Connection name. The name contains a maximum of 100 characters, including only letters, numbers, hyphens (-), and underscores (_). The connection name must be unique.
type	Yes	String	Connection type. <ul style="list-style-type: none">• DWS• DLI• SparkSQL• HIVE• RDS• CloudTable• HOST
config	No	Map<String,String>	Connection configuration item. The configuration item varies with the connection type. You do not need to set the config parameter for DLI connections. For other types of connections, see the description of connection configuration items.
description	No	String	Description of the connection. The description contains a maximum of 255 characters.

Example Request

Query connection details.

```
GET /v1/b384b9e9ab9b4ee8994c8633aabc9505/connections/connection1
```

Example Response

- Success response

HTTP status code 200

```
{
  "name": "connection1",
  "type": "DWS",
  "config": {
    "clusterName": "test",
    "userName": "dbadmin",
    "password": "*****",
    "kmsKey": "cdm-dlf",
```

```
"agentName":"cdm-donotdelete",
"sslEnable":false
}
```

- Failure response

HTTP status code 400

```
{
"error_code":"DLF6322",
"error_msg":"The data connection does not exist."
}
```

Status Codes

See [Status Codes](#).

5.4.4 Modifying a Connection (to Be Taken Offline)

NOTE

The connection management capability is provided by Management Center. This API is no longer maintained. You are advised to use the APIs in Management Center for connection management.

Function

This API is used to edit a connection.

URI

- URI format
PUT /v1/{project_id}/connections/{connection_name}?ischeck=true
- Parameter description

Table 5-214 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
connection_name	Yes	String	Name of a connection.
ischeck	No	String	Indicates whether to perform check. The default value is No .

Request Parameters

Table 5-215 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID.</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Table 5-216 Connection parameters

Parameter	Mandatory	Type	Description
name	Yes	String	<p>Connection name. The name contains a maximum of 100 characters, including only letters, numbers, hyphens (-), and underscores (_). The connection name must be unique.</p>
type	Yes	String	<p>Connection type.</p> <ul style="list-style-type: none"> DWS DLI SparkSQL HIVE RDS CloudTable HOST
config	No	Map<String,String>	<p>Connection configuration item. The configuration item varies with the connection type. You do not need to set the config parameter for DLI connections. For other types of connections, see the description of connection configuration items.</p>
description	No	String	<p>Description of the connection. The description contains a maximum of 255 characters.</p>

Response Parameters

None.

Example Request

Modify a connection.

```
PUT /v1/b384b9e9ab9b4ee8994c8633aabc9505/connections/connection1?ischeck=true
{
  "name":"connection1",
  "type":"DWS",
  "config":{
    "clusterName":"test",
    "userName":"dbadmin",
    "password":"*****",
    "kmsKey":"cdm-dlf",
    "agentName":"cdm-donotdelete",
    "sslEnable":false
  }
}
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code":"DLF.6322",
  "error_msg":"The data connection does not exist."
}
```

Status Codes

See [Status Codes](#).

5.4.5 Deleting a Connection (to Be Taken Offline)

NOTE

The connection management capability is provided by Management Center. This API is no longer maintained. You are advised to use the APIs in Management Center for connection management.

Function

This API is used to delete a connection.

URI

- URI format
DELETE /v1/{project_id}/connections/{connection_name}
- Parameter description

Table 5-217 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
connection_name	Yes	String	Name of a connection.

Request Parameters

Table 5-218 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none">If this parameter is not set, data in the default workspace is queried by default.To query data in other workspaces, this header must be carried.

Response Parameters

None.

Example Request

Delete the connection.

```
DELETE /v1/b384b9e9ab9b4ee8994c8633aabc9505/connections/connection1
```

Example Response

Success response

HTTP status code 204

5.4.6 Exporting Connections (to Be Taken Offline)

NOTE

The connection management capability is provided by Management Center. This API is no longer maintained. You are advised to use the APIs in Management Center for connection management.

Function

This API is used to export all connection information that is compressed in ZIP format.

URI

- URI format
POST /v1/{project_id}/connections/export
- Parameter description

Table 5-219 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 5-220 Request header parameter

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID. <ul style="list-style-type: none"> • If this parameter is not set, data in the default workspace is queried by default. • To query data in other workspaces, this header must be carried.

Response Parameters

The value of **Content-Type** in the response message is **application/octet-stream** that needs to be converted into a file. For details, see [Parsing a Stream in a Response Message](#). Response messages are compressed as a file. The file name format is **DLF_All_DataConnections.zip**. The file directory is as follows:

```
connections
├─{dwsConnection}.conn
```

Example Request

Export a connection.
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/connections/export

Example Response

- Success response

HTTP status code 200

Response messages are compressed as a file. The file directory is as follows:

```
connections
├──{dwsConnection}.conn
```

- Failure response

HTTP status code 400

```
{
  "error_code":"DLF.6322",
  "error_msg":"The data connection does not exist."
}
```

Status Codes

See [Status Codes](#).

5.4.7 Importing Connections (to Be Taken Offline)

NOTE

The connection management capability is provided by Management Center. This API is no longer maintained. You are advised to use the APIs in Management Center for connection management.

Function

This API is used to import one or more connection files from OBS to the Data Development module. Before using this API, store connection files in OBS buckets.

URI

- URI format
POST /v1/{project_id}/connections/import
- Parameter description

Table 5-221 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Request parameters

Parameter	Mandatory	Type	Description
path	Yes	String	With OBS deployed: OBS path for storing the connection definition file. For details about the format of the job definition file, see the response message of the exported connection. Without OBS deployed: local path for storing the connection definition file.
params	No	List<Params>	Connection parameter. By default, this parameter is left blank.
sameNamePolicy	No	String	Policy for specifying how to handle duplicate names. The options are as follows: <ul style="list-style-type: none"> • SKIP • OVERWRITE Default value: SKIP

Params connection parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of a connection.
type	Yes	String	Connection type.
params	No	Map<String,String>	Connection parameter. For details about parameter names, see the description of each type of connection configuration item. By default, this parameter is left blank.

Response Parameters

Parameter	Mandatory	Type	Description
taskId	Yes	String	ID of the task. Used to call the API for querying system tasks to obtain the import status.

Example Request

```
POST /v1/b384b9e9ab9b4ee8994c8633aabc9505/connections/import
{
  "path":"obs://00zyx/2019-07-02/DLF_ALL_DataConnections.zip",
  "sameNamePolicy":"OVERWRITE",
  "params":[
    {
      "name":"DWS",
      "type":"DWS",
      "params":{"clusterName":"cluster1"}
    },
    {
      "name":"hive",
      "type":"HIVE",
      "params":{"clusterName":"mrs_ymcc",
        "connectionMethod":"agent",
        "userName":"admin",
        "agentName":"cdm-donotdelete",
        "kmsKey":"KMS-42ab"}
    }
  ]
}
```

Example Response

- Success response

HTTP status code 200

```
{
  "taskId":"008aae2e675933c7016759418e870000"
}
```

- Failure response

HTTP status code 400

```
{
  "error_code":"DLF0815",
  "error_msg":"Fail to read OBS file."
}
```

Status Codes

See [Status Codes](#).

6 DataArts Factory APIs (V2)

6.1 Job Development APIs

6.1.1 Creating a PatchData Instance

Function

This API is used to create a PatchData instance.

URI

- URI format
POST /v2/{project_id}/factory/supplement-data
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 6-1 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.
X-Auth-Token	Yes	String	IAM Token Minimum length: 0 Maximum length: 4096
Content-Type	Yes	String	MIME type of the request body

Table 6-2 Body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the PatchData job
job_name	Yes	String	Name of the job to which data is to be patched
start_date	Yes	String	Start time for the PatchData job, for example, 2023-08-21T00:00:00 +08
end_date	Yes	String	End time for the PatchData job, for example, 2023-08-21T23:59:59 +08
parallel	Yes	int	Number of parallel periods. The value ranges from 1 to 5.
depend_jobs	No	List<JobDTO>	See Table 6-3 .
is_day_granularity	No	Boolean	Whether to patch data by day. The value can be true (yes) or false (no).

Parameter	Mandatory	Type	Description
priority	No	int	Priority of the PatchData job. If system resources are insufficient, computing resources are preferentially allocated to jobs with higher priorities. A larger value indicates a higher priority. Priorities can be set only for DLI SQL operators.
is_stop_when_fail	No	Boolean	Whether to stop a PatchData job if it fails. The value can be true (yes) or false (no).
reverse_order	No	int	Whether to patch data in descending order of date. The value can be 0 (ascending order) or 1 (descending order).
force	No	String	Whether to forcibly patch data. The value true indicates that data can be forcibly patched, that is, if a job has two PatchData instances, data can still be patched. The value false indicates that data cannot be forcibly patched.
supplement_data_run_time	No	Object	PatchData time period. Currently, data can only be patched only every day. If this parameter is not specified, the default value 00:00-00:00 is used. For details, see Table 6-4 .
supplement_data_instance_time	No	Object	Discrete time for the PatchData job. For details, see Table 6-5 .

Table 6-3 JobDTO parameters

Parameter	Mandatory	Type	Description
job_name	No	String	Job name
workspace_id	No	String	Workspace ID

Table 6-4 SupplementDataRunTime parameters

Parameter	Mandatory	Type	Description
time_of_day	No	String	Time period for patching data every day, for example, 10:15-23:30 .
day_of_week	No	String	Days of each week for patching data, for example, 10:15 to 23:30 on Monday and Wednesday
day_of_month	No	String	Days in each month for patching data, for example, 1,3 which indicates the first and third day in each month

Table 6-5 SupplementDataInstanceTime parameters

Parameter	Mandatory	Type	Description
days	No	array[string]	Discrete days
time_of_day	No	String	Time period on a specified day

Response Parameters

None.

Example Request

Create a PatchData instance named **P_job_6796_20230823_9991** which depends on **job_5799**.

```
POST /v2/62099355b894428e8916573ae635f1f9/factory/supplement-data
```

```
{
  "name": "P_job_6796_20230823_9991",
  "job_name": "job_5799",
  "start_date": "2023-08-23T00:00:00 +08",
  "end_date": "2023-08-23T23:59:59 +08",
  "parallel": 1,
  "depend_jobs": [],
  "is_day_granularity": false,
  "priority": 0,
  "is_stop_when_fail": false,
  "reverse_order": 0,
  "supplement_data_run_time": {
    "time_of_day": "01:03-02:00"
  },
  "supplement_data_instance_time": {
    "days": ["2023/09/05-2023/09/05"],
    "time_of_day": "00:00-23:59"
  },
  "force": "true"
}
```

Example Response

- Success response
HTTP status code 200
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.3051",
  "error_msg": "The request parameter is invalid."
}
```

6.1.2 Querying PatchData Instances

Function

This API is used to query PatchData instances. Pagination query is supported.

URI

- URI format
GET /v2/{project_id}/factory/supplement-data?
sort={sort}&page={page}&size={size}&name={name}&user_name={user_name}
&status={status}&start_date={start_date}&end_date={end_date}
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
name	No	String	PatchData name
user_name	No	String	Username
status	No	String	Instance status <ul style="list-style-type: none">• SUCCESS: The job is successful.• RUNNING: The job is running.• CANCEL: The job has been canceled.
sort	No	String	Sorting field <ul style="list-style-type: none">• desc: The results are displayed in descending order of creation time.• asc: The results are displayed in ascending order of creation time. The default value is desc .
page	No	Integer	Start page of the paging list. Default value: 0 The value must be greater than or equal to 0 .

Parameter	Mandatory	Type	Description
size	No	Integer	The maximum number of records on each page. Default value: 10
start_date	No	Long	13-digit timestamp of the start date of the query job
end_date	No	Long	13-digit timestamp of the end date of the query job

Request Parameters

Table 6-6 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.
X-Auth-Token	Yes	String	IAM Token Minimum length: 0 Maximum length: 4096

Response Parameters

Table 6-7 Parameter description

Parameter	Mandatory	Type	Description
total	Yes	Integer	Number of jobs
success	Yes	Boolean	true or false
msg	Yes	String	success
rows	Yes	List<row>	Information about PatchData instances. For details, see Table 6-8 .

Table 6-8 row data structure description

Parameter	Mandatory	Type	Description
job_list	Yes	List<String>	PatchData job. There may be dependent jobs, so there may be multiple jobs.
name	Yes	String	PatchData name
user_name	Yes	String	Username
type	Yes	int	How a PatchData job is triggered. The value is 0 or 1 . Value 0 indicates that the PatchData job is triggered on the job monitoring page, and value 1 indicates that the PatchData job is triggered by a restoration.
start_date	Yes	Long	13-digit timestamp of the start date of the job
end_date	Yes	Long	13-digit timestamp of the end date of the job
parallel	Yes	int	Number of parallel periods. The value ranges from 1 to 5.
status	Yes	String	Instance status <ul style="list-style-type: none"> • SUCCESS: The job is successful. • RUNNING: The job is running. • CANCEL: The job has been canceled.
submitted_date	Yes	Long	Job creation time
supplement_data_run_time	No	supplement_data_run_time object	PatchData time period. Currently, data can only be patched only every day. If this parameter is not specified, the default value 00:00-00:00 is used. For details, see Table 6-9 .
supplement_data_instance_time	No	supplement_data_instance_time object	Discrete time for the PatchData job. For details, see Table 6-10 .

Table 6-9 SupplementDataRunTime parameters

Parameter	Mandatory	Type	Description
time_of_day	Yes	String	Time period for patching data every day, for example, 10:15-23:30 .

Parameter	Mandatory	Type	Description
day_of_week	No	String	Days of each week for patching data, for example, 10:15 to 23:30 on Monday and Wednesday
day_of_month	No	String	Days in each month for patching data, for example, 1,3 which indicates the first and third day in each month

Table 6-10 SupplementDataInstanceTime parameters

Parameter	Mandatory	Type	Description
days	No	array[string]	Discrete days
time_of_day	No	String	Time period on a specified day

Example Request

Query the job list.

```
GET /v2/62099355b894428e8916573ae635f1f9/factory/supplement-data
```

Example Response

- Success response: HTTP status code 200

```
{
  "msg": "success",
  "rows": [
    {
      "end_date": 1692633599000,
      "job_list": [
        "job_8810",
        "job_1000"
      ],
      "name": "P_job_8810_20230821_175711",
      "parallel": 1,
      "start_date": 1692547200000,
      "status": "RUNNING",
      "submitted_date": 1692611566436,
      "supplement_data_run_time": {
        "time_of_day": "00:00-00:00"
      },
      "supplement_data_instance_time": {},
      "type": 0,
      "user_name": "user_test"
    }
  ],
  "success": true,
  "total": 1
}
```

- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.3051",
  "error_msg": "The request parameter is invalid."
}
```

6.1.3 Stopping a PatchData Instance

Function

This API is used to stop a specified PatchData instance. A PatchData instance can be stopped only when it is in running state.

URI

- URI format
POST /v2/{project_id}/factory/supplement-data/{instance_name}/stop
- Parameter description

Table 6-11 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
instance_name	Yes	String	PatchData name

Request Parameters

Table 6-12 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none">• If this parameter is not set, data in the default workspace is queried by default.• To query data in other workspaces, this header must be carried.
X-Auth-Token	Yes	String	IAM Token Minimum length: 0 Maximum length: 4096

Response Parameters

None

Example Request

```
POST /v2/62099355b894428e8916573ae635f1f9/factory/supplement-data/P_job_8002_203_aa/stop
```

Example Response

- Success response
HTTP status code 200
- Failure response
HTTP status code 400

```
{  
  "error_code": "DLF.0113",  
  "error_msg": "The supplement [P_job_1000_20230821_1540182] does not exist."  
}
```

6.1.4 Changing a Job Name

Function

This API is used to change the name of a job.

URI

- URI format
PUT /v2/{project_id}/factory/jobs/{job_name}/rename
- Parameter description

Table 6-13 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name

Request Parameters

Table 6-14 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.
X-Auth-Token	No	String	This parameter is mandatory for token authentication. The length of a user token must meet the following requirements: Minimum length: 0 Maximum length: 4096
Content-Type	No	String	This parameter is mandatory if the body is available. If the body is unavailable, you do not need to set and verify this parameter. Example: Content-Type: application/json;charset=UTF-8
Authorization	No	String	This field is mandatory for AK/SK authentication.
Host	No	String	This field is mandatory for AK/SK authentication.

Table 6-15 Body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Job name

Response Parameters

Table 6-16 Parameter description

Parameter	Mandatory	Type	Description
is_success	Yes	Boolean	true or false

Parameter	Mandatory	Type	Description
status_code	Yes	Integer	Response status code

Example Request

```
PUT /v2/62099355b894428e8916573ae635f1f9/factory/jobs/job_2284221/rename
{
  "name": "job_4269F"
}
```

Example Response

- Success response

HTTP status code 200

```
{
  "is_success": true,
  "status_code": 200
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.30100",
  "error_msg": "Job[job_2284221] does not exist"
}
```

6.1.5 Querying Release Packages

Function

This API is used to query release packages.

URI

- URI format
POST /v2/{project_id}/factory/release-packages
- Parameter description

Table 6-17 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 6-18 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.
X-Auth-Token	No	String	<p>This parameter is mandatory for token authentication. The length of a user token must meet the following requirements:</p> <p>Minimum length: 0 Maximum length: 4096</p>
Content-Type	No	String	<p>This parameter is mandatory if the body is available. If the body is unavailable, you do not need to set and verify this parameter.</p> <p>Example: Content-Type: application/json;charset=UTF-8</p>
Authorization	No	String	<p>This field is mandatory for AK/SK authentication.</p>
Host	No	String	<p>This field is mandatory for AK/SK authentication.</p>

Table 6-19 Body parameters

Parameter	Mandatory	Type	Description
key_word	No	String	Keyword of the package name
apply_user_name	No	String	Applicant name
deploy_user_name	No	String	Deployer name
apply_begin_time	No	Long	Start time of the application. Its value is a 13-digit timestamp.
apply_end_time	No	Long	End time of the application. Its value is a 13-digit timestamp.

Parameter	Mandatory	Type	Description
deploy_begin_time	No	Long	Start time of the release. Its value is a 13-digit timestamp.
deploy_end_time	No	Long	End time of the release. Its value is a 13-digit timestamp.
apply_user_name_filter	No	array[string]	Array of applicant names used to filter applicants. If apply_user_name is set, it must be contained in the array.
deploy_user_name_filter	No	array[string]	Array of deployer names used to filter deployers. If deploy_user_name is set, it must be contained in the array.
deploy_statuses_filter	No	array[integer]	Release status array 1 : to be reviewed 2 : successful 3 : failed 5 : being released
sorted_direction	No	String	Sorting direction. The default value is desc .
order_column	No	String	Sorting field. The default value is apply_timestamp .
limit	No	Integer	Number of results returned for each page. The default value is 10 .
offset	No	Integer	Start page. The value must be greater than or equal to 0. The default value is 0 .

Response Parameters

Table 6-20 Parameter description

Parameter	Mandatory	Type	Description
data	Yes	array[object]	Release package information. For details, see Table 6-21 .
total	Yes	Integer	Number of release packages

Table 6-21 Release package parameters

Parameter	Mandatory	Type	Description
apply_timestamp	No	Long	Application time. The value is a 13-digit timestamp.
apply_user_id	No	String	Applicant ID
apply_user_name	No	String	Applicant name
delete_flag	No	integer	Whether to delete the package 0 : It will not be deleted. 1 : It will be deleted.
deploy_status	No	integer	Release status 1 : to be reviewed 2 : successful 3 : failed 5 : being released
deploy_timestamp	No	Long	Release time. Its value is a 13-digit timestamp.
deploy_user_id	No	String	Deployer ID
deploy_user_name	No	String	Deployer name
package_approvers	No	array[object]	Release package review information. For details, see Table 6-22 .
package_id	No	String	Release package ID
package_name	No	String	Release package name
project_id	No	String	Project ID and workspace information in the following format: <i>Project ID-workspace-Workspace ID</i>
workspace_id	No	String	ID of the workspace where the release package is located

Table 6-22 Release package review parameters

Parameter	Mandatory	Type	Description
user_id	No	String	ID of the release package reviewer
user_name	No	String	Name of the release package reviewer

Example Request

```
POST /v2/62099355b894428e8916573ae635f1f9/factory/packages
{
  "key_word": "",
  "apply_user_name": "",
  "deploy_user_name": "",
  "apply_begin_time": 1699113600999,
  "apply_end_time": 1700323199999,
  "deploy_begin_time": "",
  "deploy_end_time": "",
  "apply_user_name_filter": "",
  "deploy_user_name_filter": "",
  "deploy_status_filter": "",
  "sorted_direction": "desc",
  "order_column": "apply_timestamp",
  "limit": 10,
  "offset": 0
}
```

Example Response

- Success response

HTTP status code 200

```
{
  "data": [
    {
      "apply_timestamp": 1700288912934,
      "apply_user_id": "7b71e498e75d44048c9a22dd3c54f978",
      "apply_user_name": "ei_dlf_l00341563",
      "delete_flag": 0,
      "deploy_status": 3,
      "deploy_timestamp": 1700289155129,
      "deploy_user_id": "7b71e498e75d44048c9a22dd3c54f978",
      "deploy_user_name": "ei_dlf_l00341563",
      "package_approvers": [
        {
          "user_id": "7b71e498e75d44048c9a22dd3c54f978",
          "user_name": "ei_dlf_l00341563"
        }
      ],
      "package_id": "4",
      "package_name":
      "ads_supplier_inventory_info__ads_supplier_inventory_info_20231118143537",
      "project_id": "62099355b894428e8916573ae635f1f9-
      workspace-45be704b28cb4f25a39221169fd3e27e",
      "workspace_id": "45be704b28cb4f25a39221169fd3e27e"
    },
    {
      "apply_timestamp": 1700288777664,
      "apply_user_id": "7b71e498e75d44048c9a22dd3c54f978",
      "apply_user_name": "ei_dlf_l00341563",
      "delete_flag": 0,
      "deploy_status": 2,
      "deploy_timestamp": 1700289161361,
      "deploy_user_id": "7b71e498e75d44048c9a22dd3c54f978",
      "deploy_user_name": "ei_dlf_l00341563",
      "package_approvers": [
        {
          "user_id": "7b71e498e75d44048c9a22dd3c54f978",
          "user_name": "ei_dlf_l00341563"
        }
      ],
      "package_id": "3",
      "package_name": "aa_20231118143318",
      "project_id": "62099355b894428e8916573ae635f1f9-
      workspace-45be704b28cb4f25a39221169fd3e27e",
      "workspace_id": "45be704b28cb4f25a39221169fd3e27e"
    }
  ]
}
```

```
}  
],  
"total": 2  
}
```

- Failure response

HTTP status code 400

```
{  
  "error_code": "DLF.3051",  
  "error_msg": "The request parameter is invalid. "  
}
```

6.1.6 Querying Details About a Release Package

Function

This API is used to query details about a release package.

URI

- URI format
GET /v2/{project_id}/factory/release-packages/{package_id}
- Parameter description

Table 6-23 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
package_id	Yes	String	Release package ID. For details about how to obtain the value, see the response parameter package_id in the "Querying Release Packages" API.

Request Parameters

Table 6-24 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none">• If this parameter is not set, data in the default workspace is queried by default.• To query data in other workspaces, this header must be carried.

Parameter	Mandatory	Type	Description
X-Auth-Token	No	String	This parameter is mandatory for token authentication. The length of a user token must meet the following requirements: Minimum length: 0 Maximum length: 4096
Content-Type	No	String	This parameter is mandatory if the body is available. If the body is unavailable, you do not need to set and verify this parameter. Example: Content-Type: application/json;charset=UTF-8
Authorization	No	String	This field is mandatory for AK/SK authentication.
Host	No	String	This field is mandatory for AK/SK authentication.

Response Parameters

Table 6-25 Parameter description

Parameter	Mandatory	Type	Description
release_package	Yes	object	Release package details. For details, see Table 6-26 .
task_details	Yes	array[object]	Release task details. For details, see Table 6-27 .

Table 6-26 Parameters in release package details

Parameter	Mandatory	Type	Description
apply_timestamp	No	Long	Application time. The value is a 13-digit timestamp.
apply_user_id	No	String	Applicant ID
apply_user_name	No	String	Applicant name

Parameter	Mandatory	Type	Description
delete_flag	No	integer	Whether to delete the package 0 : It will not be deleted. 1 : It will be deleted.
deploy_status	No	integer	Release status 1 : to be reviewed 2 : successful 3 : failed 5 : being released
deploy_timestamp	No	Long	Release time. Its value is a 13-digit timestamp.
deploy_user_id	No	String	Deployer ID
deploy_user_name	No	String	Deployer name
package_approvers	No	array[object]	Release package review information. For details, see Table 6-28 .
package_id	No	String	Release package ID
package_name	No	String	Release package name
project_id	No	String	Project ID and workspace information in the following format: <i>Project ID-workspace-Workspace ID</i>
workspace_id	No	String	ID of the workspace where the release package is located

Table 6-27 Parameters in release task details

Parameter	Mandatory	Type	Description
deploy_status	No	integer	Release status 1 : to be reviewed 2 : successful 3 : failed 5 : being released
deployed_version	No	integer	Released node version
item_name	No	String	Release task name

Parameter	Mandatory	Type	Description
pending_item_id	No	String	Release task ID
pending_version	No	integer	Current node version
script_id	No	String	Script ID
task_id	No	String	Job ID
start_job_status	No	integer	Job start status 2: successful 3: failed
submit_timestamp	No	Long	Submission time, which is a 13-digit timestamp
submit_user_id	No	String	Submitter ID
submit_user_name	No	String	Submitter name
task_type	No	integer	Task type 1: job 2: script 3: resource
update_type	No	integer	Change type. The default value is 1. 1: adding 2: modification 3: deletion

Table 6-28 Release package review parameters

Parameter	Mandatory	Type	Description
user_id	No	String	ID of the release package reviewer
user_name	No	String	Name of the release package reviewer

Example Request

```
GET /v2/62099355b894428e8916573ae635f1f9/factory/release-packages/1
```

Example Response

- Success response

HTTP status code 200

```
{
  "release_package": {
    "apply_timestamp": 1700288912934,
    "apply_user_id": "7b71e498e75d44048c9a22dd3c54f978",
    "apply_user_name": "ei_dlf_l00341563",
    "delete_flag": 0,
    "deploy_status": 3,
    "deploy_timestamp": 1700289155129,
    "deploy_user_id": "7b71e498e75d44048c9a22dd3c54f978",
    "deploy_user_name": "ei_dlf_l00341563",
    "package_approvers": [
      {
        "user_id": "7b71e498e75d44048c9a22dd3c54f978",
        "user_name": "ei_dlf_l00341563"
      }
    ],
    "package_id": "4",
    "package_name": "ads_supplier_inventory_info__ads_supplier_inventory_info_20231118143537",
    "project_id": "62099355b894428e8916573ae635f1f9-workspace-45be704b28cb4f25a39221169fd3e27e",
    "workspace_id": "45be704b28cb4f25a39221169fd3e27e"
  },
  "task_details": [
    {
      "deploy_status": 3,
      "deployed_version": 0,
      "item_name": "ads_supplier_inventory_info__ads_supplier_inventory_info",
      "pending_item_id": "19",
      "pending_version": 1,
      "script_id": "ff808081899c04fa01899fc39cf61baa",
      "submit_timestamp": 1690602544380,
      "submit_user_id": "7b71e498e75d44048c9a22dd3c54f978",
      "submit_user_name": "ei_dlf_l00341563",
      "task_type": 2,
      "update_type": 1
    }
  ]
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLE.3051",
  "error_msg": "The request parameter is invalid. "
}
```

6.1.7 Configuring Job Tags

Function

This API is used to configure job tags.

URI

- URI format
POST /v2/{project_id}/factory/jobs/{job_name}/tags
- Parameter description

Table 6-29 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name

Request Parameters

Table 6-30 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.
X-Auth-Token	Yes	String	IAM Token Minimum length: 0 Maximum length: 4096
Content-Type	No	String	This parameter is mandatory if the body is available. If the body is unavailable, you do not need to set and verify this parameter. Example: Content-Type: application/json;charset=UTF-8

Table 6-31 Body parameters

Parameter	Mandatory	Type	Description
tag_names	No	List<String>	Tag list. If the list is empty, all tags of the job will be deleted. Example: ["tag1", "tag2"]

Response Parameters

None

Example Request

Add **tag1** to job **myJob**.

```
POST /v2/b384b9e9ab9b4ee8994c8633aabc9505/factory/jobs/myJob/tags
{
  "tag_names": ["tag1"]
}
```

Delete all the tags of job **myJob**.

```
POST /v2/b384b9e9ab9b4ee8994c8633aabc9505/factory/jobs/myJob/tags
{
  "tag_names": []
}
```

Example Response

- Success response
HTTP status code 204
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.100",
  "error_msg": "The job does not exists."
}
```

6.1.8 Querying Alarm Notifications

Function

This API is used to query the alarm notifications in a specified period.

URI

- URI format
GET /v2/{project_id}/factory/alarm-info?
start_time={start_time}&end_time={end_time}&limit={limit}&offset={offset}
- Parameter description

Table 6-32 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
start_time	No	Long	Start time of an alarm. The default value is one hour before the current time. The value is a 13-digit timestamp.

Parameter	Mandatory	Type	Description
end_time	No	Long	End time of an alarm. The default value is the current time. The value is a 13-digit timestamp. The time range can be the last week.
offset	No	Integer	Start page of the paging list. The default value is 0 . The value must be greater than or equal to 0 .
limit	No	Integer	The maximum number of records on each page. The default value is 100 and the value ranges from 1 to 1000.

Request Parameters

Table 6-33 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.
X-Auth-Token	No	String	IAM token Minimum length: 0 Maximum length: 4096

Response Parameters

Table 6-34 Parameter description

Parameter	Mandatory	Type	Description
alarm_info	No	List<AlarmInfo>	Notification information. For details, see Table 6-35 .
total	No	Integer	Number of notifications

Table 6-35 AlarmInfo data structure

Parameter	Mandatory	Type	Description
alarm_time	No	Long	Alarm notification time
job_name	No	String	Job name
schedule_type	No	Integer	Job instance scheduling mode. Possible values are: 0: general scheduling 2: manual scheduling 5: PatchData 6: subjob scheduling 7: one-off scheduling
send_msg	No	String	Message sent
plan_time	No	Long	Planned time
remind_type	No	Integer	Alarm notification type. The following values are available: 0: successful execution 1: execution exception/failure 3: unfinished 4: busy resources 12: cycle not completed 13: cancellation 14: successful rerun of a failed job 15: job modification
send_status	No	Integer	Job sending status. Available values include: 0: The notification was sent successfully. 1: The notification failed to be sent.
job_id	No	Long	Job ID

Example Request

```
GET /v2/b384b9e9ab9b4ee8994c8633aabc9505/factory/alarm-info?
start_time=1702378620000&end_time=1702710169595&limit=3&offset=0
```

Example Response

- Success response

HTTP status code 200

```
{
  "alarm_info": [
```

```
{
  "alarm_time": 1702710169460,
  "job_name": "job_0998",
  "schedule_type": 0,
  "send_msg": "success",
  "plan_time": 1702378440000,
  "remind_type": 0,
  "send_status": 0,
  "job_id": 911925
},
{
  "job_name": "job_0998",
  "schedule_type": 0,
  "send_msg": "success",
  "remind_type": 0,
  "send_status": 0,
  "alarm_time": 1702710169375,
  "plan_time": 1702378260000,
  "job_id": 911925
}
],
"total": 20
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.0810",
  "error_msg": "Task does not exist."
}
```

6.1.9 Releasing Task Packages

Function

This API is used to release task packages.

URI

- URI format
POST /v2/{project_id}/factory/release-packages/deploy
- Parameter description

Table 6-36 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 6-37 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.
X-Auth-Token	No	String	<p>IAM Token</p> <p>Minimum length: 0</p> <p>Maximum length: 4096</p>
Content-Type	No	String	<p>This parameter is mandatory if the body is available. If the body is unavailable, you do not need to set and verify this parameter.</p> <p>Example: Content-Type: application/json;charset=UTF-8</p>

Table 6-38 Request body parameters

Parameter	Mandatory	Type	Description
package_ids	Yes	array[string]	<p>IDs of the packages to be released. The value cannot be empty or contain more than 100 IDs.</p>
startup_mode	No	Integer	<p>Whether to start a job immediately after the package is released. The value can be 0 or 1. The default value is 1.</p> <p>1: A job is immediately started after the package is released.</p> <p>0: A job is not immediately started after the package is released.</p>

Response Parameters

Table 6-39 Parameters

Parameter	Mandatory	Type	Description
deploy_package_details	No	List<Object>	Information about the package to be released. For details, see Table 6-40 .

Table 6-40 deploy_package_details data structure

Parameter	Mandatory	Type	Description
asy_subtask_num	No	Integer	Total number of subtasks that are executed asynchronously
asy_task_id	No	String	ID of the asynchronous job, which is returned to the console for polling.
package_id	No	Long	Release package ID

Example Request

```
POST /v2/b384b9e9ab9b4ee8994c8633aabc9505/factory/release-packages/deploy
{
  "package_ids": ["23"],
  "startup_mode": 0
}
```

Example Response

- Success response

HTTP status code 200

```
{
  "deploy_package_details": [
    {
      "asy_subtask_num": 1,
      "asy_task_id": "ff8080818c81c8ab018c8b43f85d0008",
      "package_id": 23
    }
  ]
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.0810",
  "error_msg": "Task does not exist."
}
```

6.1.10 Canceling Task Packages

Function

This API is used to cancel task packages.

URI

- URI format
POST /v2/{project_id}/factory/release-packages/unpack
- Parameter description

Table 6-41 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Request Parameters

Table 6-42 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none">• If this parameter is not set, data in the default workspace is queried by default.• To query data in other workspaces, this header must be carried.
X-Auth-Token	No	String	IAM token Minimum length: 0 Maximum length: 4096
Content-Type	No	String	This parameter is mandatory if the body is available. If the body is unavailable, you do not need to set and verify this parameter. Example: Content-Type: application/json;charset=UTF-8

Table 6-43 Request body parameters

Parameter	Mandatory	Type	Description
package_ids	No	array[string]	IDs of release packages

Response Parameters

None

Example Request

```
POST /v2/b384b9e9ab9b4ee8994c8633aabc9505/factory/release-packages/unpack
{"package_ids":["12","13"]}
```

Example Response

- Success response
HTTP status code 200
- Failure response
HTTP status code 400

```
{
  "error_code": "DLF.0810",
  "error_msg": "Task does not exist."
}
```

6.1.11 Querying the Instance Execution Status

Function

This API is used to query the instance statuses of the current day, previous day, the day before the previous day, and last seven days.

URI

- URI format
GET /v2/{project_id}/factory/monitor/task-statistics-overview?
is_own={is_own}&query_days={query_days}
- Parameter description

Table 6-44 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .

Parameter	Mandatory	Type	Description
is_own	No	String	Whether to query the statuses of the current user's instances. The default value is false , indicating that the statuses of all users' instances will be queried. Value true indicates that the statuses of the current user's instances will be queried.
query_days	No	String	Number of days for query. The value can be today , yesterday , before_yesterday , or all . The default value is today , indicating that instance statuses of the current day will be queried. today : Instance statuses of the current day will be queried. yesterday : Instance statuses of yesterday will be queried. before_yesterday : Instance statuses of the day before yesterday will be queried. all : Instance statuses of the last seven days will be queried.

Request Parameters

Table 6-45 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.
X-Auth-Token	No	String	IAM Token Minimum length: 0 Maximum length: 4096

Response Parameters

Table 6-46 Parameters

Parameter	Mandatory	Type	Description
fail_count	No	Integer	Number of failed instances
force_success_count	No	Integer	Number of instances that were forced to be successful
freeze_count	No	Integer	Number of frozen instances
ignore_success_count	No	Integer	Number of instances whose failures were ignored
manual_stop_count	No	Integer	Number of canceled instances
pause_count	No	Integer	Number of paused instances
running_count	No	Integer	Number of running instances
running_exception_count	No	Integer	Number of abnormal instances
skip_count	No	Integer	Number of skipped instances
success_count	No	Integer	Number of successful instances
waiting_confirm_count	No	Integer	Number of instances to be confirmed for execution
waiting_count	No	Integer	Number of instances waiting to be executed
total_count	No	Integer	Total number of instances

Example Request

```
GET /v2/b384b9e9ab9b4ee8994c8633aabc9505/factory/monitor/task-statistics-overview?  
is_own=false&query_days=today
```

Example Response

- Success response

HTTP status code 200

```
{  
  "fail_count": 0,  
  "force_success_count": 0,  
  "freeze_count": 0,  
  "ignore_success_count": 0,  
  "manual_stop_count": 0,  
  "pause_count": 0,  
  "running_count": 0,  
  "running_exception_count": 0,
```

```
"skip_count": 0,
"success_count": 1,
"total_count": 1,
"waiting_confirm_count": 0,
"waiting_count": 0
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.21113",
  "error_msg": "The task query parameters [today2] are incorrect. Currently, the supported types of parameters are today, yesterday, before_yesterday, and all."
}
```

6.1.12 Querying Completed Tasks

Function

This API is used to query the tasks completed on the current day, on the previous day, and over the last seven days.

URI

- URI format
GET /v2/{project_id}/factory/monitor/task-completion-data?type={type}
- Parameter description

Table 6-47 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
type	No	String	Type of the tasks to be queried. The default value is all , indicating that all types of tasks will be queried. The following job operators are supported: Dummy, CDM Job, MRS Hive SQL, MRS Spark SQL, DLI SQL, DLI Spark, Python, DWS SQL, or Shell. NOTE The above operators are only examples. This API collects successfully executed instances once an hour. A task is a job operator.

Request Parameters

Table 6-48 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	Workspace ID <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.
X-Auth-Token	No	String	IAM Token Minimum length: 0 Maximum length: 4096

Response Parameters

Table 6-49 Parameters

Parameter	Mandatory	Type	Description
yesterday	No	array[object]	Task information of the previous day. For details, see task_record structure .
average	No	array[object]	Task information over the last seven days. For details, see task_record structure .
today	No	array[object]	Task information of the current day. For details, see task_record structure .

Table 6-50 task_record parameters

Parameter	Mandatory	Type	Description
record_time	No	Long	Time point. The value is a 13-digit timestamp.
task_completion_num	No	Long	Number of tasks completed at the current time point.

Example Request

```
GET /v2/b384b9e9ab9b4ee8994c8633aabc9505/factory/monitor/task-completion-data?type=all
```

Example Response

- Success response

HTTP status code 200

```
{
  "yesterday": [
    {
      "record_time": 1704124800000,
      "task_completion_num": 0
    },
    {
      "record_time": 1704128400000,
      "task_completion_num": 0
    },
    {
      "record_time": 1704132000000,
      "task_completion_num": 0
    }
  ],
  "average": [
    {
      "record_time": 1704124800000,
      "task_completion_num": 0
    },
    {
      "record_time": 1704128400000,
      "task_completion_num": 0
    },
    {
      "record_time": 1704132000000,
      "task_completion_num": 0
    }
  ],
  "today": [
    {
      "record_time": 1704124800000,
      "task_completion_num": 0
    },
    {
      "record_time": 1704128400000,
      "task_completion_num": 0
    },
    {
      "record_time": 1704132000000,
      "task_completion_num": 0
    }
  ]
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.3051",
  "error_msg": "The request parameter is invalid. "
}
```

6.1.13 Querying Instances of a Specified Job

Function

This API is used to query the instances of a job based on the job name.

URI

- URI format
GET /v2/{project_id}/factory/jobs/{job_name}/instances/detail
?
min_plan_time={min_plan_time}&max_plan_time={max_plan_time}&limit={limit}&offset={offset}&status={status}&instance_type={instance_type}&force_success={force_success}&ignore_success={ignore_success}
- Parameter description

Table 6-51 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Project ID and Account ID .
job_name	Yes	String	Job name <ul style="list-style-type: none">• If you want to query the instance list of a specific batch job, job_name is the batch job name.• If you want to query sub-jobs associated with a node in a real-time job, the job_name format is <i>Real-time job name_Node name</i>.
min_plan_time	No	Long	Minimum planned job execution time in milliseconds. Job instances whose start time is later than this time are returned. The default value is 00:00:00 of the current day. Instances of up to one month can be queried.
max_plan_time	No	Long	Minimum planned job execution time in milliseconds. Job instances whose start time is earlier than this time are returned. The default value is the current time.
limit	No	int	Maximum number of records on each page The parameter value ranges from 1 to 1000. Default value: 10
offset	No	int	Start page of the paging list. The default value is 0 . The value must be greater than or equal to 0 .

Parameter	Mandatory	Type	Description
status	No	String	<p>Job instance status</p> <ul style="list-style-type: none"> • waiting • running • success • fail • running-exception • skip-by-depend • freeze • pause • manual-stop <p>By default, all instances will be queried.</p>
instance_type	No	int	<p>Job scheduling mode</p> <ul style="list-style-type: none"> • 0: general scheduling • 2: manual scheduling • 5: PatchData • 6: subjob scheduling • 7: one-off scheduling <p>By default, all instances will be queried.</p>
force_success	No	boolean	<p>This parameter is available when status is success. If this parameter is set to true, job instances that were forced to be successful will be queried.</p> <p>Default value: false</p>
ignore_success	No	boolean	<p>This parameter is available when status is success. If this parameter is set to true, job instances whose failures were ignored will be queried.</p> <p>Default value: false</p>

Request Parameters

Table 6-52 Request header parameters

Parameter	Mandatory	Type	Description
workspace	No	String	<p>Workspace ID</p> <ul style="list-style-type: none"> If this parameter is not set, data in the default workspace is queried by default. To query data in other workspaces, this header must be carried.

Response Parameters

Table 6-53 Parameter description

Parameter	Mandatory	Type	Description
total	Yes	Long	Total number of records
instances	Yes	List<Instance>	Job instance status. For details, see Table 6-54 .

Table 6-54 instances parameters

Parameter	Mandatory	Type	Description
job_name	Yes	String	Job name. When you view the instance list of a specified batch job, job_name is the name of the batch job. When you view the subjobs associated with a node in a real-time job, job_name is in format of <i>real-time job name_node name</i> .
job_id	No	Long	Job ID
job_instance_name	Yes	String	Name of a job instance recorded by the log, rather than the name defined during job creation

Parameter	Mandatory	Type	Description
status	Yes	String	Job instance status <ul style="list-style-type: none">• waiting• running• success• fail• running-exception• skip-by-depend• freeze• pause• manual-stop
plan_time	Yes	Long	Planned execution time of the job instance
start_time	Yes	Long	Actual execution start time of the job instance
end_time	No	Long	Actual execution end time of the job instance
execute_time	No	Long	Execution duration in milliseconds
instance_id	Yes	Long	Job instance ID, which is used to query job instance details
submit_time	Yes	Long	Time when a job is submitted
instance_type	Yes	int	Job scheduling mode <ul style="list-style-type: none">• 0: general scheduling• 2: manual scheduling• 5: PatchData• 6: subjob scheduling• 7: one-off scheduling
force_success	No	boolean	Whether the job instance status is forcibly successful Default value: false
ignore_success	No	boolean	Whether the job instance status is failure ignored Default value: false
version	No	int	Job instance version

Example Request

View the instance list of batch job **job_batch**.

GET /v2/b384b9e9ab9b4ee8994c8633aabc9505/factory/jobs/job_batch/instances/detail

Example Response

- Success response

HTTP status code 200

```
{
  "total": 2,
  "instances": [
    {
      "end_time": 1551671598000,
      "execute_time": 0.3,
      "force_success": false,
      "ignore_success": false,
      "instance_id": 34765,
      "instance_type": 2,
      "job_id": 608627,
      "job_name": "job_batch",
      "job_instance_name": "job_batch",
      "plan_time": 1551671580000,
      "start_time": 1551671580000,
      "status": "success",
      "submit_time": 1550910278706,
      "version": 1
    },
    {
      "end_time": 1551671538000,
      "execute_time": 0.3,
      "force_success": false,
      "ignore_success": false,
      "instance_id": 34764,
      "instance_type": 5,
      "job_id": 608627,
      "job_name": "job_batch",
      "job_instance_name": "job_batch",
      "plan_time": 1551671520000,
      "start_time": 1551671521000,
      "status": "success",
      "submit_time": 1550910278706,
      "version": 1
    }
  ]
}
```

- Failure response

HTTP status code 400

```
{
  "error_code": "DLF.0100",
  "error_msg": "The job does not exists."
}
```

7 DataArts Architecture APIs

7.1 Overview

7.1.1 Overview Statistics

Function

Overview statistics.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/definitions/statistic

Table 7-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-3 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-4 data

Parameter	Type	Description
value	StatisticInfo object	value: unified outer data structure of the returned result.

Table 7-5 StatisticInfo

Parameter	Type	Description
atomic_index	StatisticSchema object	Atomic metric.
derivative_index	StatisticSchema object	Derivative indicator.
compound_metric	StatisticSchema object	Composite index.
biz_index	StatisticSchema object	Service indicator.
dimension	StatisticSchema object	Dimension.
condition_group	StatisticSchema object	Indicates the restriction group.
time_condition	StatisticSchema object	Time limit.
common_condition	StatisticSchema object	General restriction.
dimension_logic_table	StatisticSchema object	Dimension table.
fact_logic_table	StatisticSchema object	Fact table.
aggregation_logic_table	StatisticSchema object	Summary table.
data_standard	StatisticSchema object	Data standard.
table_model	StatisticSchema object	Service table.
lookup_table	StatisticSchema object	Indicates the code table.
pending_review	Integer	Waiting for my review.
my_applications	Integer	My Application.

Table 7-6 StatisticSchema

Parameter	Type	Description
increase	Integer	Added this month.
total	Integer	Total number.
standard_coverage	Double	Standard coverage.

Status code: 400**Table 7-7** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-8** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-9** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message

Parameter	Type	Description
data	Object	Returned data information.

Example Requests

Statistics on the Overview page.

GET https://{endpoint}/v2/{project_id}/design/definitions/statistic

Example Responses

Status code: 200

This operation succeeds, and the returned data is StatisticInfo.

```
{
  "data": {
    "value": {
      "atomic_index": {
        "increase": 0,
        "total": 5,
        "standard_coverage": null
      },
      "derivative_index": {
        "increase": 0,
        "total": 8,
        "standard_coverage": null
      },
      "compound_metric": {
        "increase": 0,
        "total": 3,
        "standard_coverage": null
      },
      "biz_index": {
        "increase": 0,
        "total": 1,
        "standard_coverage": null
      },
      "dimension": {
        "increase": 1,
        "total": 22,
        "standard_coverage": null
      },
      "condition_group": null,
      "time_condition": {
        "increase": 0,
        "total": 14,
        "standard_coverage": null
      },
      "common_condition": null,
      "dimension_logic_table": {
        "increase": 1,
        "total": 17,
        "standard_coverage": null
      },
      "fact_logic_table": {
        "increase": 0,
        "total": 7,
        "standard_coverage": null
      },
      "aggregation_logic_table": {
        "increase": 0,
        "total": 12,
```

```
"standard_coverage" : null
},
"data_standard" : {
  "increase" : 1,
  "total" : 13,
  "standard_coverage" : null
},
"table_model" : {
  "increase" : 15,
  "total" : 50,
  "standard_coverage" : 0.0775
},
"lookup_table" : {
  "increase" : 2,
  "total" : 10,
  "standard_coverage" : null
},
"pending_review" : 1,
"my_applications" : 1
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;
```

```
public class CountOverviewsSolution {
    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CountOverviewsRequest request = new CountOverviewsRequest();
        try {
            CountOverviewsResponse response = client.countOverviews(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CountOverviewsRequest()
        response = client.count_overviews(request)
```



```
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CountOverviewsRequest{}
    response, err := client.CountOverviews(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is StatisticInfo.
400	BadRequest

Status Code	Description
401	Unauthorized
403	Forbidden

7.1.2 Model Statistics

Function

Statistics in a single model.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/table-models/statistic

Table 7-10 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-11 Query Parameters

Parameter	Mandatory	Type	Description
model_id	No	String	ID of the relational model based on which statistics are queried. The ID is a string.

Request Parameters

Table 7-12 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-13 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-14 data

Parameter	Type	Description
value	TableModelStatisticVO object	value: unified outer data structure of the returned result.

Table 7-15 TableModelStatisticVO

Parameter	Type	Description
total	StatisticStandardCoverageVO object	Number of logical entities.
published	StatisticStandardCoverageVO object	Number of released logical entities.
sync_total	SyncStatusStatisticVO object	Indicates the overall synchronization status.
physical_table	SyncStatusStatisticVO object	Table creation status.
technical_asset	SyncStatusStatisticVO object	Synchronization status of technology assets.
business_asset	SyncStatusStatisticVO object	Service asset synchronization status.
meta_data_link	SyncStatusStatisticVO object	Asset association status.
data_quality	SyncStatusStatisticVO object	Quality job status.

Table 7-16 StatisticStandardCoverageVO

Parameter	Type	Description
all_col_num	String	Total number of fields, which is a string
col_num	String	Number of associated standard fields, which is a string
coverage	Double	Standard coverage.
details	Array of AllTableVO objects	Array of reference tables.

Table 7-17 AllTableVO

Parameter	Type	Description
id	String	L1 ID, which is a string
name	String	L1 name.
tb_logic_guid	String	GUID of the logical entity after the table is released.
quality_id	String	Quality ID.
reversed	Boolean	Indicates whether it is reverse.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
tb_guid	String	GUID of the physical table after the table is released.
code	String	Code.
create_by	String	Creator.
tenant_id	String	Tenant ID.
description	String	Description.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
db_name	String	Indicates the database name.

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
technical_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
dlf_task	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
materialization	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
publish_to_dlm	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
standard_count	String	Standard quantity, which is a read-only string
alias	String	Alias
api_id	String	API ID of the SDR table.
workspace_id	String	Workspace ID
workspace_name	String	Workspace name
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string

Parameter	Type	Description
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment

Table 7-18 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-19 SyncStatusStatisticVO

Parameter	Type	Description
success	String	Number of synchronized data records, which is a string
failed	String	Number of failures, which is a string
running	String	Number of data records being synchronized, which is a string
other	String	Number of unsynchronized data records, which is a string

Status code: 400

Table 7-20 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-21 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-22 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Relational modeling statistics.

GET https://{endpoint}/v2/{project_id}/design/table-models/statistic

Example Responses

Status code: 200

This operation succeeds, and the returned data is TableModelStatisticVO.

```
{
  "data": {
    "value": {
      "total": {
        "all_col_num": "2",
        "col_num": "20",
        "coverage": 0.15,
        "details": null
      },
      "published": {
        "all_col_num": "2",
        "col_num": "20",
        "coverage": 0.15,
        "details": null
      },
      "sync_total": {
        "success": "1",
        "failed": "1",
        "running": "0",
        "other": "0"
      },
      "physical_table": {
        "success": "2",
        "failed": "0",
        "running": "0",
        "other": "0"
      },
      "technical_asset": {
        "success": "1",
        "failed": "1",
        "running": "0",
        "other": "0"
      },
      "business_asset": {
        "success": "2",
        "failed": "0",
        "running": "0",
        "other": "0"
      },
      "meta_data_link": {
        "success": "1",
        "failed": "1",
        "running": "0",
        "other": "0"
      },
      "data_quality": {
        "success": "2",
        "failed": "0",
        "running": "0",
        "other": "0"
      }
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
```

```
"error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class CountTableModelsSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        CountTableModelsRequest request = new CountTableModelsRequest();  
        try {  
            CountTableModelsResponse response = client.countTableModels(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CountTableModelsRequest()
        response = client.count_table_models(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
```

```

Build()
    request := &model.CountTableModelsRequest{}
    response, err := client.CountTableModels(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}

```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is TableModelStatisticVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.1.3 Relational Modeling Statistics

Function

Outer-layer statistics on the relational modeling page.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/models/statistic

Table 7-23 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-24 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-25** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-26 data

Parameter	Type	Description
value	AllModelStatisticVO object	value: unified outer data structure of the returned result.

Table 7-27 AllModelStatisticVO

Parameter	Type	Description
frequent	Array of ModelStatisticVO objects	Indicates whether it is commonly used.
top	Array of ModelStatisticVO objects	First-layer model.
logic	Array of ModelStatisticVO objects	Logical model.
physical	Array of ModelStatisticVO objects	Physical model.
dwr	ModelStatisticVO object	DWR data reporting layer.
dm	ModelStatisticVO object	DM data integration layer.

Table 7-28 ModelStatisticVO

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement

Parameter	Type	Description
		<ul style="list-style-type: none"> • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
db	Integer	Indicates the database.
tb	Integer	Data table.
tb_published	Integer	Released data table.
fd	Integer	Field.
fd_published	Integer	Published field.

Parameter	Type	Description
st	Double	Standard coverage.
st_published	Double	Coverage of released standards.
model	WorkspaceVO object	Model information

Table 7-29 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-30 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-31 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-32** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Relational modeling statistics.

```
GET https://{endpoint}/v2/{project_id}/design/models/statistic
```

Example Responses**Status code: 200**

This operation succeeds, and the returned data is AllModelStatisticVO.

```
{
  "data": {
    "value": {
      "frequent": null,
      "top": [ {
        "biz_type": "TABLE_MODEL",
        "level": "SDI",
        "db": 2,
        "tb": 14,
        "tb_published": 10,
        "fd": 31,
        "fd_published": 20,
        "st": 0.06451612903225806,
        "st_published": 0.1,
        "model": {
          "id": "1183882892003127296",
          "name": "test_prefix_001",
          "description": "",
          "is_physical": true,
          "frequent": false,
          "top": true,
          "level": "SDI",
          "dw_type": "DWS",
          "create_time": "2023-12-11T21:27:57+08:00",
          "update_time": "2024-04-08T19:18:05+08:00",
          "create_by": "test_uesr",
          "update_by": "test_uesr",
          "type": "THIRD_NF",
          "biz_catalog_ids": null,
          "databases": null,
          "table_model_prefix": "test_"
        }
      } ],
      "biz_type": "TABLE_MODEL",
      "level": null,
      "db": 0,
    }
  }
}
```

```
"tb" : 0,
"tb_published" : 0,
"fd" : 0,
"fd_published" : 0,
"st" : 0.0,
"st_published" : 0.0,
"model" : {
  "id" : "1230823879853875200",
  "name" : "LOGIC_B",
  "description" : "",
  "is_physical" : false,
  "frequent" : false,
  "top" : true,
  "level" : null,
  "dw_type" : "UNSPECIFIED",
  "create_time" : "2024-04-19T10:14:41+08:00",
  "update_time" : "2024-04-19T10:14:41+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "type" : "THIRD_NF",
  "biz_catalog_ids" : null,
  "databases" : null,
  "table_model_prefix" : ""
}
}],
"logic" : [ {
  "biz_type" : "TABLE_MODEL",
  "level" : null,
  "db" : 0,
  "tb" : 0,
  "tb_published" : 0,
  "fd" : 0,
  "fd_published" : 0,
  "st" : 0.0,
  "st_published" : 0.0,
  "model" : {
    "id" : "1230823879853875200",
    "name" : "LOGIC_B",
    "description" : "",
    "is_physical" : false,
    "frequent" : false,
    "top" : true,
    "level" : null,
    "dw_type" : "UNSPECIFIED",
    "create_time" : "2024-04-19T10:14:41+08:00",
    "update_time" : "2024-04-19T10:14:41+08:00",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "type" : "THIRD_NF",
    "biz_catalog_ids" : null,
    "databases" : null,
    "table_model_prefix" : ""
  }
}, {
  "biz_type" : "TABLE_MODEL",
  "level" : null,
  "db" : 0,
  "tb" : 0,
  "tb_published" : 0,
  "fd" : 0,
  "fd_published" : 0,
  "st" : 0.0,
  "st_published" : 0.0,
  "model" : {
    "id" : "1230823841513799680",
    "name" : "LOGIC_A",
    "description" : "",
    "is_physical" : false,
    "frequent" : false,
```

```
"top" : false,
"level" : null,
"dw_type" : "UNSPECIFIED",
"create_time" : "2024-04-19T10:14:31+08:00",
"update_time" : "2024-04-19T10:14:31+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"type" : "THIRD_NF",
"biz_catalog_ids" : null,
"databases" : null,
"table_model_prefix" : ""
}
}, {
"biz_type" : "TABLE_MODEL",
"level" : null,
"db" : 0,
"tb" : 4,
"tb_published" : 3,
"fd" : 12,
"fd_published" : 9,
"st" : 0.16666666666666666,
"st_published" : 0.11111111111111111,
"model" : {
"id" : "1229432454457262080",
"name" : "test_czh",
"description" : "",
"is_physical" : false,
"frequent" : false,
"top" : false,
"level" : null,
"dw_type" : "UNSPECIFIED",
"create_time" : "2024-04-15T14:05:39+08:00",
"update_time" : "2024-04-15T14:05:39+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"type" : "THIRD_NF",
"biz_catalog_ids" : null,
"databases" : null,
"table_model_prefix" : ""
}
}, {
"biz_type" : "TABLE_MODEL",
"level" : null,
"db" : 0,
"tb" : 11,
"tb_published" : 10,
"fd" : 25,
"fd_published" : 23,
"st" : 0.04,
"st_published" : 0.043478260869565216,
"model" : {
"id" : "1169318954880122880",
"name" : "logic_czh",
"description" : "",
"is_physical" : false,
"frequent" : false,
"top" : false,
"level" : null,
"dw_type" : "UNSPECIFIED",
"create_time" : "2023-11-01T16:56:04+08:00",
"update_time" : "2023-11-01T16:56:04+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"type" : "THIRD_NF",
"biz_catalog_ids" : null,
"databases" : null,
"table_model_prefix" : null
}
}
}],
```

```
"physical" : [ {
  "biz_type" : "TABLE_MODEL",
  "level" : null,
  "db" : 1,
  "tb" : 9,
  "tb_published" : 7,
  "fd" : 34,
  "fd_published" : 20,
  "st" : 0.08823529411764706,
  "st_published" : 0.1,
  "model" : {
    "id" : "1204448983481765888",
    "name" : "test_dws",
    "description" : "",
    "is_physical" : true,
    "frequent" : false,
    "top" : false,
    "level" : null,
    "dw_type" : "DWS",
    "create_time" : "2024-02-06T15:30:15+08:00",
    "update_time" : "2024-02-06T15:30:15+08:00",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "type" : "THIRD_NF",
    "biz_catalog_ids" : null,
    "databases" : null,
    "table_model_prefix" : ""
  }
}, {
  "biz_type" : "TABLE_MODEL",
  "level" : "SDI",
  "db" : 2,
  "tb" : 14,
  "tb_published" : 10,
  "fd" : 31,
  "fd_published" : 20,
  "st" : 0.06451612903225806,
  "st_published" : 0.1,
  "model" : {
    "id" : "1183882892003127296",
    "name" : "test_prefix_001",
    "description" : "",
    "is_physical" : true,
    "frequent" : false,
    "top" : true,
    "level" : "SDI",
    "dw_type" : "DWS",
    "create_time" : "2023-12-11T21:27:57+08:00",
    "update_time" : "2024-04-08T19:18:05+08:00",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "type" : "THIRD_NF",
    "biz_catalog_ids" : null,
    "databases" : null,
    "table_model_prefix" : "test_"
  }
}, {
  "biz_type" : "TABLE_MODEL",
  "level" : null,
  "db" : 0,
  "tb" : 2,
  "tb_published" : 2,
  "fd" : 4,
  "fd_published" : 4,
  "st" : 0.0,
  "st_published" : 0.0,
  "model" : {
    "id" : "1178728794341699584",
    "name" : "dws_czh",
```



```
"description": "",
"is_physical": true,
"frequent": false,
"top": false,
"level": null,
"dw_type": "DWS",
"create_time": "2023-11-27T16:07:24+08:00",
"update_time": "2024-04-08T19:13:13+08:00",
"create_by": "test_uesr",
"update_by": "test_uesr",
"type": "THIRD_NF",
"biz_catalog_ids": null,
"databases": null,
"table_model_prefix": "test_"
}
}, {
"biz_type": "TABLE_MODEL",
"level": null,
"db": 2,
"tb": 10,
"tb_published": 8,
"fd": 36,
"fd_published": 32,
"st": 0.08333333333333333,
"st_published": 0.09375,
"model": {
"id": "1169319480548048896",
"name": "mrs_hive_czh",
"description": "",
"is_physical": true,
"frequent": false,
"top": false,
"level": null,
"dw_type": "MRS_HIVE",
"create_time": "2023-11-01T16:58:09+08:00",
"update_time": "2023-11-01T16:58:09+08:00",
"create_by": "test_uesr",
"update_by": "test_uesr",
"type": "THIRD_NF",
"biz_catalog_ids": null,
"databases": null,
"table_model_prefix": null
}
}],
"dwr": {
"biz_type": "DIMENSION",
"level": null,
"db": 5,
"tb": 24,
"tb_published": 21,
"fd": 387,
"fd_published": 378,
"st": 0.0,
"st_published": 0.0,
"model": null
},
"dm": {
"biz_type": "AGGREGATION_LOGIC_TABLE",
"level": null,
"db": 2,
"tb": 12,
"tb_published": 7,
"fd": 77,
"fd_published": 35,
"st": 0.0,
"st_published": 0.0,
"model": null
}
}
```

```
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class CountAllModelsSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```

```
        .build();
        CountAllModelsRequest request = new CountAllModelsRequest();
        try {
            CountAllModelsResponse response = client.countAllModels(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CountAllModelsRequest()
        response = client.count_all_models(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
```

```
// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.CountAllModelsRequest{}
response, err := client.CountAllModels(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is AllModelStatisticVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.1.4 Standard Coverage Statistics

Function

View the coverage of a data standard in all model fields, that is, the percentage of fields that use the standard to the total fields.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/definitions/statistic/{id}

Table 7-33 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-34 Query Parameters

Parameter	Mandatory	Type	Description
biz_type	No	String	Query by service type. The options are ATOMIC_INDEX (atomic indicator), DERIVATIVE_INDEX (derivative indicator), DIMENSION (dimension), and TIME_CONDITION (time filter). DIMENSION_LOGIC_TABLE (dimension table), FACT_LOGIC_TABLE (fact table), AGGREGATION_LOGIC_TABLE (summary table), TABLE_MODEL (relational modeling table), CODE_TABLE (code table), STANDARD_ELEMENT (data standard), BIZ_METRIC (business metric), COMPOUND_METRIC (compound metric), SUBJECT (subject), ATOMIC_METRIC (atomic metric (new)), DERIVED_METRIC (Derivative (new)), COMPOSITE_METRIC (Compound (new))).

Request Parameters

Table 7-35 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-36** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-37 data

Parameter	Type	Description
value	StatisticStandardCoverageVO object	value: unified outer data structure of the returned result.

Table 7-38 StatisticStandardCoverageVO

Parameter	Type	Description
all_col_num	String	Total number of fields, which is a string
col_num	String	Number of associated standard fields, which is a string
coverage	Double	Standard coverage.
details	Array of AllTableVO objects	Array of reference tables.

Table 7-39 AllTableVO

Parameter	Type	Description
id	String	L1 ID, which is a string
name	String	L1 name.
tb_logic_guid	String	GUID of the logical entity after the table is released.
quality_id	String	Quality ID.
reversed	Boolean	Indicates whether it is reverse.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_databas e	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
tb_guid	String	GUID of the physical table after the table is released.

Parameter	Type	Description
code	String	Code.
create_by	String	Creator.
tenant_id	String	Tenant ID.
description	String	Description.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
db_name	String	Indicates the database name.

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
technical_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
dlf_task	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
materialization	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
publish_to_dlm	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
standard_count	String	Standard quantity, which is a read-only string
alias	String	Alias
api_id	String	API ID of the SDR table.
workspace_id	String	Workspace ID
workspace_name	String	Workspace name
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string

Parameter	Type	Description
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment

Table 7-40 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-41 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-42 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-43 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

View the table attribute coverage of the data standard whose ID is 1186622399320305665.

```
GET https://{endpoint}/v2/{project_id}/design/definitions/statistic/1186622399320305665?
biz_type=STANDARD_ELEMENT
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is StatisticStandardCoverageVO.

```
{
  "data": {
    "value": {
      "all_col_num": "621",
      "col_num": "1",
      "coverage": 0.001610305958132045,
      "details": [ {
        "id": "1202300665725100032",
        "name": "test_czh_secrecy_0055",
        "tb_logic_guid": "163b03fa-44c8-4eb1-9844-fdec203325b0",
        "quality_id": null,
        "reversed": null,
        "partition_conf": null,
        "dirty_out_switch": false,
        "dirty_out_database": "",
        "dirty_out_prefix": "",
        "dirty_out_suffix": ""
      } ]
    }
  }
}
```

```
"tb_guid" : null,
"code" : "test_czh_secretcy_005",
"create_by" : "test_uesr",
"tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "None",
"status" : "PUBLISHED",
"biz_type" : "TABLE_MODEL",
"create_time" : "2024-01-31T17:13:36+08:00",
"update_time" : "2024-04-08T15:50:39+08:00",
"db_name" : null,
"dw_type" : "DWS",
"queue_name" : null,
"schema" : null,
"l1" : null,
"l2" : null,
"l3" : null,
"l1_id" : null,
"l2_id" : null,
"l3_id" : "1194966710038474752",
"new_biz" : null,
"physical_table" : "UPDATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "NO_NEED",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"dlf_task" : "NO_NEED",
"materialization" : null,
"publish_to_dlm" : null,
"summary_status" : "SUMMARY_FAILED",
"standard_count" : "1",
"alias" : null,
"api_id" : "0",
"workspace_id" : "9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"workspace_name" : "test_czh_simple",
"dev_version" : null,
"prod_version" : "1202300758293389312",
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
```

```
"error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class CountStandardsSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        CountStandardsRequest request = new CountStandardsRequest();  
        request.withId("{id}");  
        try {  
            CountStandardsResponse response = client.countStandards(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials
```

```
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CountStandardsRequest()
        request.id = "{id}"
        response = client.count_standards(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CountStandardsRequest{}
    request.Id = "{id}"
    response, err := client.CountStandards(request)
```



```
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is StatisticStandard-CoverageVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.2 Information Architecture

7.2.1 Querying Information About Multiple Types of Tables

Function

Query information about multiple types of tables from the information architecture, including logical entities, physical tables, dimension tables, fact tables, and summary tables.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/all-tables

Table 7-44 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-45 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be approved• PUBLISHED: released• OFFLINE_DEVELOPING: to be approved• OFFLINE: offline• REJECT: rejected
sync_status	No	String	Defines the enumeration of the synchronization status. Options: <ul style="list-style-type: none">• RUNNING: synchronizing• NO_NEED: not synchronized• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure

Parameter	Mandatory	Type	Description
sync_key	No	Array of strings	<p>Defines the enumeration of synchronization task types.</p> <p>Options:</p> <ul style="list-style-type: none"> • BUSINESS_ASSET: synchronizes service assets. • DATA_QUALITY: Create a quality job. • TECHNICAL_ASSET: synchronizes technology assets. • META_DATA_LINK: asset association • PHYSICAL_TABLE: Create a table (production environment). • DEV_PHYSICAL_TABLE: Create a table in the development environment. • DLF_TASK: creates a data development job. • MATERIALIZATION: Data is stored in the database (code table). • PUBLISH_TO_DLM: publishes data service APIs. • SUMMARY_STATUS: overall status
biz_catalog_id	No	String	ID of the service catalog to which the belongs.
begin_time	No	String	<p>Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.</p>

Parameter	Mandatory	Type	Description
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
biz_catalog_id_list	No	Array of strings	List of the subject IDs. The value is a string.
biz_type_list	Yes	Array of strings	Type of the table to be queried, which is mandatory. Options: <ul style="list-style-type: none"> • TABLE_MODEL_LOGIC: logical entity • TABLE_MODEL: physical table • DIMENSION_LOGIC_TABLE: dimension table • FACT_LOGIC_TABLE: fact table • AGGREGATION_LOGIC_TABLE: summary table

Request Parameters

Table 7-46 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-47** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-48 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-49 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of AllTableVO objects	Number of application object (AllTableVO) groups that are found.

Table 7-50 AllTableVO

Parameter	Type	Description
id	String	L1 ID, which is a string
name	String	L1 name.
tb_logic_guid	String	GUID of the logical entity after the table is released.
quality_id	String	Quality ID.
reversed	Boolean	Indicates whether it is reverse.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_databas e	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
tb_guid	String	GUID of the physical table after the table is released.
code	String	Code.
create_by	String	Creator.
tenant_id	String	Tenant ID.
description	String	Description.

Parameter	Type	Description
status	String	<p>Release status of an entity. This parameter is read-only and does not need to be set during creation and update.</p> <p>Options:</p> <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
db_name	String	Indicates the database name.

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none"> ● NO_NEED: not synchronized ● CREATE_SUCCESS: The creation is successful. ● CREATE_FAILED: Creation failed ● UPDATE_SUCCESS: The update is successful. ● UPDATE_FAILED: The update fails. ● SUMMARY_SUCCESS: overall success ● SUMMARY_FAILED: overall failure ● RUNNING: overall running ● OFFLINE: offline
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none"> ● NO_NEED: not synchronized ● CREATE_SUCCESS: The creation is successful. ● CREATE_FAILED: Creation failed ● UPDATE_SUCCESS: The update is successful. ● UPDATE_FAILED: The update fails. ● SUMMARY_SUCCESS: overall success ● SUMMARY_FAILED: overall failure ● RUNNING: overall running ● OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
data_quality	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
dlf_task	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
materialization	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
publish_to_dlm	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
standard_count	String	Standard quantity, which is a read-only string
alias	String	Alias
api_id	String	API ID of the SDR table.
workspace_id	String	Workspace ID
workspace_name	String	Workspace name
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string

Parameter	Type	Description
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment

Table 7-51 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-52 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-53 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-54 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Query the first ten data records of logical entities, physical tables, dimension tables, fact tables, and summary tables from the information architecture.

```
GET https://{endpoint}/v2/{project_id}/design/all-tables?
offset=1&limit=10&biz_type_list=TABLE_MODEL_LOGIC&biz_type_list=TABLE_MODEL&biz_type_list=DIMENSI
ON_LOGIC_TABLE&biz_type_list=FACT_LOGIC_TABLE&biz_type_list=AGGREGATION_LOGIC_TABLE&advOnInit
Flg=true
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is an AllTableVO list.

```
{
  "data": {
    "value": {
      "total": 86,
      "records": [ {
        "id": "1229920251379118081",
        "name": "test_czh_0416",
        "tb_logic_guid": "",
        "quality_id": "1230938508982857728",
        "reversed": null,
        "partition_conf": null,
        "dirty_out_switch": false,
        "dirty_out_database": "",
        "dirty_out_prefix": "",
        "dirty_out_suffix": ""
      }
    ]
  }
}
```

```
"tb_guid" : null,
"code" : "test_czh_0416",
"create_by" : "test_uesr",
"tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "None",
"status" : "OFFLINE",
"biz_type" : "TABLE_MODEL",
"create_time" : "2024-04-16T22:23:59+08:00",
"update_time" : "2024-04-19T17:55:49+08:00",
"db_name" : "bi",
"dw_type" : "DWS",
"queue_name" : null,
"schema" : null,
"l1" : "test_czh_catalog",
"l2" : null,
"l3" : null,
"l1_id" : "1194966710038474752",
"l2_id" : null,
"l3_id" : null,
"new_biz" : null,
"physical_table" : "CREATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "CREATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "CREATE_SUCCESS",
"dlf_task" : "NO_NEED",
"materialization" : null,
"publish_to_dlm" : null,
"summary_status" : "SUMMARY_FAILED",
"standard_count" : null,
"alias" : null,
"api_id" : "0",
"workspace_id" : null,
"workspace_name" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}, {
"id" : "1229812609512062976",
"name" : "test_czh_sl_003",
"tb_logic_guid" : "86ddea4c-0dda-4a7e-8ca1-a3ddce64ad97",
"quality_id" : null,
"reversed" : null,
"partition_conf" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"tb_guid" : null,
"code" : "test_czh_sl_003",
"create_by" : "test_uesr",
"tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "None",
"status" : "PUBLISHED",
"biz_type" : "TABLE_MODEL",
"create_time" : "2024-04-16T15:16:15+08:00",
"update_time" : "2024-04-17T17:07:55+08:00",
"db_name" : null,
"dw_type" : "UNSPECIFIED",
"queue_name" : null,
"schema" : null,
"l1" : "test_czh2",
"l2" : null,
"l3" : null,
"l1_id" : "1170064724101115904",
"l2_id" : null,
```

```
"l3_id" : null,
"new_biz" : null,
"physical_table" : "NO_NEED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "NO_NEED",
"business_asset" : "CREATE_SUCCESS",
"meta_data_link" : "NO_NEED",
"data_quality" : "CREATE_FAILED",
"dlf_task" : "NO_NEED",
"materialization" : null,
"publish_to_dlm" : null,
"summary_status" : "SUMMARY_SUCCESS",
"standard_count" : null,
"alias" : null,
"api_id" : "0",
"workspace_id" : null,
"workspace_name" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}, {
  "id" : "1229812231022243840",
  "name" : "test_czh_sl_002",
  "tb_logic_guid" : "bafa9927-9f2b-4197-b8fa-cc94338b707b",
  "quality_id" : null,
  "reversed" : null,
  "partition_conf" : null,
  "dirty_out_switch" : false,
  "dirty_out_database" : "",
  "dirty_out_prefix" : "",
  "dirty_out_suffix" : "",
  "tb_guid" : null,
  "code" : "test_czh_sl_002",
  "create_by" : "test_uesr",
  "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "description" : "None",
  "status" : "PUBLISHED",
  "biz_type" : "TABLE_MODEL",
  "create_time" : "2024-04-16T15:14:45+08:00",
  "update_time" : "2024-04-16T15:14:52+08:00",
  "db_name" : null,
  "dw_type" : "UNSPECIFIED",
  "queue_name" : null,
  "schema" : null,
  "l1" : "test_czh2",
  "l2" : null,
  "l3" : null,
  "l1_id" : "1170064724101115904",
  "l2_id" : null,
  "l3_id" : null,
  "new_biz" : null,
  "physical_table" : "NO_NEED",
  "dev_physical_table" : "NO_NEED",
  "technical_asset" : "NO_NEED",
  "business_asset" : "CREATE_SUCCESS",
  "meta_data_link" : "NO_NEED",
  "data_quality" : "NO_NEED",
  "dlf_task" : "NO_NEED",
  "materialization" : null,
  "publish_to_dlm" : null,
  "summary_status" : "SUMMARY_SUCCESS",
  "standard_count" : null,
  "alias" : null,
  "api_id" : "0",
  "workspace_id" : null,
  "workspace_name" : null,
  "dev_version" : null,
```

```
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}, {
  "id" : "1229805021919621120",
  "name" : "test_czh_sl_001",
  "tb_logic_guid" : "cec6e323-ec00-457a-aaee-9ec931326bc7",
  "quality_id" : null,
  "reversed" : null,
  "partition_conf" : null,
  "dirty_out_switch" : false,
  "dirty_out_database" : "",
  "dirty_out_prefix" : "",
  "dirty_out_suffix" : "",
  "tb_guid" : null,
  "code" : "test_czh_sl_001",
  "create_by" : "test_uesr",
  "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "description" : "None",
  "status" : "PUBLISHED",
  "biz_type" : "TABLE_MODEL",
  "create_time" : "2024-04-16T14:46:06+08:00",
  "update_time" : "2024-04-16T14:50:34+08:00",
  "db_name" : null,
  "dw_type" : "UNSPECIFIED",
  "queue_name" : null,
  "schema" : null,
  "l1" : "test_czh_catalog",
  "l2" : null,
  "l3" : null,
  "l1_id" : "1194966710038474752",
  "l2_id" : null,
  "l3_id" : null,
  "new_biz" : null,
  "physical_table" : "NO_NEED",
  "dev_physical_table" : "NO_NEED",
  "technical_asset" : "NO_NEED",
  "business_asset" : "CREATE_SUCCESS",
  "meta_data_link" : "NO_NEED",
  "data_quality" : "NO_NEED",
  "dlf_task" : "NO_NEED",
  "materialization" : null,
  "publish_to_dlm" : null,
  "summary_status" : "SUMMARY_SUCCESS",
  "standard_count" : null,
  "alias" : null,
  "api_id" : "0",
  "workspace_id" : null,
  "workspace_name" : null,
  "dev_version" : null,
  "prod_version" : null,
  "dev_version_name" : null,
  "prod_version_name" : null,
  "env_type" : "PROD_TYPE"
}, {
  "id" : "1226973789422813184",
  "name" : "test_0408_004",
  "tb_logic_guid" : "40322535-e903-44e1-a0c0-f79573fc09e6",
  "quality_id" : "1227637237613944833",
  "reversed" : null,
  "partition_conf" : null,
  "dirty_out_switch" : false,
  "dirty_out_database" : "",
  "dirty_out_prefix" : "",
  "dirty_out_suffix" : "",
  "tb_guid" : null,
  "code" : "test_0408_004",
  "create_by" : "test_uesr",
```

```
"tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "None",
"status" : "PUBLISHED",
"biz_type" : "TABLE_MODEL",
"create_time" : "2024-04-08T19:15:47+08:00",
"update_time" : "2024-04-10T15:12:17+08:00",
"db_name" : null,
"dw_type" : "DWS",
"queue_name" : null,
"schema" : null,
"l1" : "Email Title",
"l2" : null,
"l3" : null,
"l1_id" : "1170064658061799424",
"l2_id" : null,
"l3_id" : null,
"new_biz" : null,
"physical_table" : "CREATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "CREATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "CREATE_SUCCESS",
"dlf_task" : "NO_NEED",
"materialization" : null,
"publish_to_dlm" : null,
"summary_status" : "SUMMARY_FAILED",
"standard_count" : null,
"alias" : null,
"api_id" : "0",
"workspace_id" : null,
"workspace_name" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}, {
  "id" : "1226973648695504896",
  "name" : "test_0408_003",
  "tb_logic_guid" : "d6b610a5-de9f-43f6-b3ef-aa4bc23ae766",
  "quality_id" : null,
  "reversed" : null,
  "partition_conf" : null,
  "dirty_out_switch" : false,
  "dirty_out_database" : "",
  "dirty_out_prefix" : "",
  "dirty_out_suffix" : "",
  "tb_guid" : null,
  "code" : "test_0408_003",
  "create_by" : "test_uesr",
  "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "description" : "None",
  "status" : "PUBLISHED",
  "biz_type" : "TABLE_MODEL",
  "create_time" : "2024-04-08T19:15:14+08:00",
  "update_time" : "2024-04-08T19:18:36+08:00",
  "db_name" : null,
  "dw_type" : "DWS",
  "queue_name" : null,
  "schema" : null,
  "l1" : "My Tests",
  "l2" : null,
  "l3" : null,
  "l1_id" : "1178033294286176256",
  "l2_id" : null,
  "l3_id" : null,
  "new_biz" : null,
  "physical_table" : "CREATE_FAILED",
```



```
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "UPDATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"dlf_task" : "NO_NEED",
"materialization" : null,
"publish_to_dlm" : null,
"summary_status" : "SUMMARY_FAILED",
"standard_count" : null,
"alias" : null,
"api_id" : "0",
"workspace_id" : null,
"workspace_name" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}, {
  "id" : "1226923543347003392",
  "name" : "test_0408_002",
  "tb_logic_guid" : "b11128db-ba65-40b6-99a5-6103106fac79",
  "quality_id" : null,
  "reversed" : null,
  "partition_conf" : null,
  "dirty_out_switch" : false,
  "dirty_out_database" : "",
  "dirty_out_prefix" : "",
  "dirty_out_suffix" : "",
  "tb_guid" : null,
  "code" : "test_0408_002",
  "create_by" : "test_uesr",
  "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "description" : "None",
  "status" : "PUBLISHED",
  "biz_type" : "TABLE_MODEL",
  "create_time" : "2024-04-08T15:56:08+08:00",
  "update_time" : "2024-04-08T19:14:09+08:00",
  "db_name" : null,
  "dw_type" : "DWS",
  "queue_name" : null,
  "schema" : null,
  "l1" : "test_czh2",
  "l2" : null,
  "l3" : null,
  "l1_id" : "1170064724101115904",
  "l2_id" : null,
  "l3_id" : null,
  "new_biz" : null,
  "physical_table" : "CREATE_FAILED",
  "dev_physical_table" : "NO_NEED",
  "technical_asset" : "CREATE_FAILED",
  "business_asset" : "UPDATE_SUCCESS",
  "meta_data_link" : "UPDATE_FAILED",
  "data_quality" : "NO_NEED",
  "dlf_task" : "NO_NEED",
  "materialization" : null,
  "publish_to_dlm" : null,
  "summary_status" : "SUMMARY_FAILED",
  "standard_count" : null,
  "alias" : null,
  "api_id" : "0",
  "workspace_id" : null,
  "workspace_name" : null,
  "dev_version" : null,
  "prod_version" : null,
  "dev_version_name" : null,
  "prod_version_name" : null,
```

```
"env_type": "PROD_TYPE"
}, {
  "id": "1226923406239399936",
  "name": "test_0408",
  "tb_logic_guid": "",
  "quality_id": null,
  "reversed": null,
  "partition_conf": null,
  "dirty_out_switch": false,
  "dirty_out_database": "",
  "dirty_out_prefix": "",
  "dirty_out_suffix": "",
  "tb_guid": null,
  "code": "test_0408",
  "create_by": "test_uesr",
  "tenant_id": "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "description": "None",
  "status": "DRAFT",
  "biz_type": "TABLE_MODEL",
  "create_time": "2024-04-08T15:55:35+08:00",
  "update_time": "2024-04-19T17:22:02+08:00",
  "db_name": null,
  "dw_type": "DWS",
  "queue_name": null,
  "schema": null,
  "l1": "test_import",
  "l2": null,
  "l3": null,
  "l1_id": "1193142949320474624",
  "l2_id": null,
  "l3_id": null,
  "new_biz": null,
  "physical_table": "CREATE_FAILED",
  "dev_physical_table": "NO_NEED",
  "technical_asset": "CREATE_FAILED",
  "business_asset": "CREATE_SUCCESS",
  "meta_data_link": "UPDATE_FAILED",
  "data_quality": "NO_NEED",
  "dlf_task": "NO_NEED",
  "materialization": null,
  "publish_to_dlm": null,
  "summary_status": "SUMMARY_FAILED",
  "standard_count": null,
  "alias": null,
  "api_id": "0",
  "workspace_id": null,
  "workspace_name": null,
  "dev_version": null,
  "prod_version": null,
  "dev_version_name": null,
  "prod_version_name": null,
  "env_type": "PROD_TYPE"
}, {
  "id": "1222930979413499904",
  "name": "test_czh_0328",
  "tb_logic_guid": "712edcdd-3bba-4077-b182-4a1f17e5bcd8",
  "quality_id": null,
  "reversed": null,
  "partition_conf": null,
  "dirty_out_switch": false,
  "dirty_out_database": "",
  "dirty_out_prefix": "",
  "dirty_out_suffix": "",
  "tb_guid": null,
  "code": "dim_test_czh_0328",
  "create_by": "test_uesr",
  "tenant_id": "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "description": "None",
  "status": "PUBLISHED",
```

```
"biz_type" : "DIMENSION_LOGIC_TABLE",
"create_time" : "2024-03-28T15:31:06+08:00",
"update_time" : "2024-03-28T15:31:10+08:00",
"db_name" : "bi",
"dw_type" : "DWS",
"queue_name" : null,
"schema" : null,
"l1" : "test_czh_catalog",
"l2" : null,
"l3" : null,
"l1_id" : "1194966710038474752",
"l2_id" : null,
"l3_id" : null,
"new_biz" : null,
"physical_table" : "CREATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "CREATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"dlf_task" : "NO_NEED",
"materialization" : null,
"publish_to_dlm" : null,
"summary_status" : "SUMMARY_FAILED",
"standard_count" : null,
"alias" : "",
"api_id" : "0",
"workspace_id" : null,
"workspace_name" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}, {
"id" : "1222853173564289024",
"name" : "test_czh_0328",
"tb_logic_guid" : "",
"quality_id" : null,
"reversed" : null,
"partition_conf" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"tb_guid" : null,
"code" : "test_czh_0328",
"create_by" : "test_uesr",
"tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "None",
"status" : "OFFLINE",
"biz_type" : "TABLE_MODEL",
"create_time" : "2024-03-28T10:21:56+08:00",
"update_time" : "2024-04-19T17:55:50+08:00",
"db_name" : "bi",
"dw_type" : "DWS",
"queue_name" : null,
"schema" : null,
"l1" : "test_czh_catalog",
"l2" : null,
"l3" : null,
"l1_id" : "1194966710038474752",
"l2_id" : null,
"l3_id" : null,
"new_biz" : null,
"physical_table" : "CREATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "CREATE_SUCCESS",
```

```
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"dfl_task" : "NO_NEED",
"materialization" : null,
"publish_to_dlm" : null,
"summary_status" : "SUMMARY_FAILED",
"standard_count" : null,
"alias" : null,
"api_id" : "0",
"workspace_id" : null,
"workspace_name" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
  } ]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListAllTablesSolution {
```

```
public static void main(String[] args) {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    // environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running
    // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    String ak = System.getenv("CLOUD_SDK_AK");
    String sk = System.getenv("CLOUD_SDK_SK");
    String projectId = "{project_id}";

    ICredential auth = new BasicCredentials()
        .withProjectId(projectId)
        .withAk(ak)
        .withSk(sk);

    DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
        .withCredential(auth)
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
    ListAllTablesRequest request = new ListAllTablesRequest();
    try {
        ListAllTablesResponse response = client.listAllTables(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAllTablesRequest()
        response = client.list_all_tables(request)
        print(response)
    except exceptions.ClientRequestException as e:
```

```
print(e.status_code)
print(e.request_id)
print(e.error_code)
print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAllTablesRequest{}
    response, err := client.ListAllTables(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is an AllTableVO list.
400	BadRequest
401	Unauthorized

Status Code	Description
403	Forbidden

7.3 Data Standards

7.3.1 Obtaining Data Standards

Function

Obtain the data standard set based on the query conditions in pagination mode and sort the data by modification time in descending order.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/standards

Table 7-55 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-56 Query Parameters

Parameter	Mandatory	Type	Description
directory_id	No	String	Catalog ID. Obtain the data standards in the directory. If there are subdirectories, obtain the data standards of all subdirectories.

Parameter	Mandatory	Type	Description
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-57 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-58 Response body parameters

Parameter	Type	Description
data	data object	The data standard set is returned.

Table 7-59 data

Parameter	Type	Description
value	value object	Returned data standard details.

Table 7-60 value

Parameter	Type	Description
records	Array of StandElementValueVOList objects	StandElementValueVO array.
total	Integer	Total number of data standards.

Table 7-61 StandElementValueVOList

Parameter	Type	Description
values	Array of StandElementValueVO objects	Attributes
id	String	Data standard ID, which is a string
directory_id	String	ID of the directory to which the standard belongs. The value is a string.
directory_path	String	Directory tree.
row_id	String	Row ID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Parameter	Type	Description
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-62 StandElementValueVO

Parameter	Type	Description
fd_name	String	Attribute name.
fd_value	String	Property value.
fd_id	String	Attribute ID, which is a string
directory_id	String	ID of the directory to which the standard belongs. The value is a string.
row_id	String	ID of the row to which the standard belongs. The value is a string.
id	String	Data standard ID, which is a string

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-63 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-64 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-65 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-66 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-67** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-68** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Query the set of the first 10 data standards in the directory whose ID is 1193957835831218179 and its subdirectories.

```
GET https://{endpoint}/v2/{project_id}/design/standards?offset=1&limit=10&directory_id=1193957835831218179
```

Example Responses

Status code: 200

This operation succeeds. The returned data is the standard set of all data in the directory and its subdirectories and the total number of data.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "values": [ {
          "fd_name": "nameCh",
          "fd_value": "test_czh_bug_0110",
          "fd_id": "1169308633595617280",
          "directory_id": "1193957835831218179",
          "row_id": "1195028291904507904",
          "id": "1195028291917090826",
          "status": "DRAFT",
          "create_by": "test_uesr",
          "update_by": "test_uesr",
          "create_time": "2024-01-11T15:35:47+08:00",
          "update_time": "2024-01-12T17:33:42+08:00"
        }, {
          "fd_name": "nameEn",
          "fd_value": "DS000005",
          "fd_id": "1169308634786799616",
          "directory_id": "1193957835831218179",
          "row_id": "1195028291904507904",
          "id": "1195028291917090827",
          "status": "DRAFT",
          "create_by": "test_uesr",
          "update_by": "test_uesr",
          "create_time": "2024-01-11T15:35:47+08:00",
          "update_time": "2024-01-12T17:33:42+08:00"
        }, {
          "fd_name": "dataType",
          "fd_value": "STRING",
          "fd_id": "1169308634803576832",
          "directory_id": "1193957835831218179",
          "row_id": "1195028291904507904",
          "id": "1195028291917090828",
          "status": "DRAFT",
          "create_by": "test_uesr",
          "update_by": "test_uesr",
          "create_time": "2024-01-11T15:35:47+08:00",
          "update_time": "2024-01-12T17:33:42+08:00"
        }, {
          "fd_name": "dataLength",
          "fd_value": ",",
          "fd_id": "1169308634824548352",
          "directory_id": "1193957835831218179",
          "row_id": "1195028291904507904",
          "id": "1195028291917090816",
          "status": "DRAFT",
          "create_by": "test_uesr",
          "update_by": "test_uesr",
          "create_time": "2024-01-11T15:35:47+08:00",
          "update_time": "2024-01-12T17:33:42+08:00"
        }, {
          "fd_name": "hasAllowValueList",
          "fd_value": "false",
          "fd_id": "1169308634841325568",
          "directory_id": "1193957835831218179",
          "row_id": "1195028291904507904",
          "id": "1195028291917090817",
          "status": "DRAFT",
          "create_by": "test_uesr",
          "update_by": "test_uesr",
          "create_time": "2024-01-11T15:35:47+08:00",
          "update_time": "2024-01-12T17:33:42+08:00"
        }
      ]
    }
  }
}
```

```
"fd_name" : "allowList",
"fd_value" : "",
"fd_id" : "1169308634862297088",
"directory_id" : "1193957835831218179",
"row_id" : "1195028291904507904",
"id" : "1195028291917090818",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-01-11T15:35:47+08:00",
"update_time" : "2024-01-12T17:33:42+08:00"
}, {
"fd_name" : "referCodeTable",
"fd_value" : "",
"fd_id" : "1169308634879074304",
"directory_id" : "1193957835831218179",
"row_id" : "1195028291904507904",
"id" : "1195028291917090819",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-01-11T15:35:47+08:00",
"update_time" : "2024-01-12T17:33:42+08:00"
}, {
"fd_name" : "codeStandColumn",
"fd_value" : "",
"fd_id" : "1169308634895851520",
"directory_id" : "1193957835831218179",
"row_id" : "1195028291904507904",
"id" : "1195028291917090820",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-01-11T15:35:47+08:00",
"update_time" : "2024-01-12T17:33:42+08:00"
}, {
"fd_name" : "ruleOwner",
"fd_value" : "",
"fd_id" : "1169308634933600256",
"directory_id" : "1193957835831218179",
"row_id" : "1195028291904507904",
"id" : "1195028291917090821",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-01-11T15:35:47+08:00",
"update_time" : "2024-01-12T17:33:42+08:00"
}, {
"fd_name" : "dataMonitorOwner",
"fd_value" : "",
"fd_id" : "1169308634950377472",
"directory_id" : "1193957835831218179",
"row_id" : "1195028291904507904",
"id" : "1195028291917090822",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-01-11T15:35:47+08:00",
"update_time" : "2024-01-12T17:33:42+08:00"
}, {
"fd_name" : "standardLevel",
"fd_value" : "",
"fd_id" : "1169308634971348992",
"directory_id" : "1193957835831218179",
"row_id" : "1195028291904507904",
"id" : "1195028291917090823",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
```

```
    "create_time" : "2024-01-11T15:35:47+08:00",
    "update_time" : "2024-01-12T17:33:42+08:00"
  }, {
    "fd_name" : "description",
    "fd_value" : "",
    "fd_id" : "1169308634988126208",
    "directory_id" : "1193957835831218179",
    "row_id" : "1195028291904507904",
    "id" : "1195028291917090824",
    "status" : "DRAFT",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-01-11T15:35:47+08:00",
    "update_time" : "2024-01-12T17:33:42+08:00"
  }, {
    "fd_name" : "englishName",
    "fd_value" : "",
    "fd_id" : "1194674245716848640",
    "directory_id" : "1193957835831218179",
    "row_id" : "1195028291904507904",
    "id" : "1195028291917090825",
    "status" : "DRAFT",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-01-11T15:35:47+08:00",
    "update_time" : "2024-01-12T17:33:42+08:00"
  }, {
    "fd_name" : "Oh, huh?",
    "fd_value" : "you can you up",
    "fd_id" : "1194674245767180288",
    "directory_id" : "1193957835831218179",
    "row_id" : "1195028291904507904",
    "id" : "1195409867876298763",
    "status" : "DRAFT",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-01-12T16:52:02+08:00",
    "update_time" : "2024-01-12T17:33:42+08:00"
  }, {
    "fd_name" : "No, no, no.",
    "fd_value" : "no can no bb",
    "fd_id" : "1194674684046856192",
    "directory_id" : "1193957835831218179",
    "row_id" : "1195028291904507904",
    "id" : "1195409867876298764",
    "status" : "DRAFT",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-01-12T16:52:02+08:00",
    "update_time" : "2024-01-12T17:33:42+08:00"
  } ],
  "id" : "1195028291904507904",
  "directory_id" : "1193957835831218179",
  "directory_path" : "test_czh2",
  "row_id" : "1195028291904507904",
  "status" : "DRAFT",
  "approval_info" : null,
  "new_biz" : null,
  "from_public" : false,
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-01-11T15:35:47+08:00",
  "update_time" : "2024-01-12T17:33:42+08:00"
} ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListAllStandardsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListAllStandardsRequest request = new ListAllStandardsRequest();
        try {
            ListAllStandardsResponse response = client.listAllStandards(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
```



```
# The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
# In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListAllStandardsRequest()
    response = client.list_all_standards(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAllStandardsRequest{}
    response, err := client.ListAllStandards(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds. The returned data is the standard set of all data in the directory and its subdirectories and the total number of data.
400	Failed. The user request is invalid.
401	Failed. User identity authentication failed.
403	Failed. The user does not have the permission to call this API.
404	Failed. The API requested by the user does not exist.

7.3.2 Creating a Data Standard

Function

Create a data standard.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/standards

Table 7-69 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-70 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-71 Request body parameters

Parameter	Mandatory	Type	Description
values	Yes	Array of StandElementValueVO objects	Attributes
id	No	String	Data standard ID, which is a string
directory_id	Yes	String	ID of the directory to which the standard belongs. The value is a string.

Parameter	Mandatory	Type	Description
directory_path	No	String	Directory tree.
row_id	No	String	Row ID, which is a string
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.
from_public	No	Boolean	Indicates whether the data is from the public layer.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-72 StandElementValueVO

Parameter	Mandatory	Type	Description
fd_name	Yes	String	Attribute name.
fd_value	No	String	Property value.
fd_id	No	String	Attribute ID, which is a string
directory_id	No	String	ID of the directory to which the standard belongs. The value is a string.

Parameter	Mandatory	Type	Description
row_id	No	String	ID of the row to which the standard belongs. The value is a string.
id	No	String	Data standard ID, which is a string
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-73 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-74 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Response Parameters

Status code: 200

Table 7-75 Response body parameters

Parameter	Type	Description
data	data object	The data result is returned when the data standard is created.

Table 7-76 data

Parameter	Type	Description
value	StandElementValueVOList object	Attribute value list.

Table 7-77 StandElementValueVOList

Parameter	Type	Description
values	Array of StandElementValueVO objects	Attributes
id	String	Data standard ID, which is a string
directory_id	String	ID of the directory to which the standard belongs. The value is a string.

Parameter	Type	Description
directory_path	String	Directory tree.
row_id	String	Row ID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-78 StandElementValueVO

Parameter	Type	Description
fd_name	String	Attribute name.
fd_value	String	Property value.
fd_id	String	Attribute ID, which is a string
directory_id	String	ID of the directory to which the standard belongs. The value is a string.
row_id	String	ID of the row to which the standard belongs. The value is a string.
id	String	Data standard ID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-79 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-80 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-81 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-82 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-83 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-84 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a data standard based on parameters.

```
POST https://{endpoint}/v2/{project_id}/design/standards
{
  "id" : 0,
  "directory_id" : "1228084836548411397",
  "values" : [ {
    "fd_name" : "nameCh",
    "fd_value" : "test_create_data_standard"
  }, {

```

```
"fd_name": "nameEn",
"fd_value": ""
}, {
"fd_name": "englishName",
"fd_value": "test_create_data_standard"
}, {
"fd_name": "dataType",
"fd_value": "STRING"
}, {
"fd_name": "dataLength",
"fd_value": "1,256"
}, {
"fd_name": "hasAllowValueList",
"fd_value": false
}, {
"fd_name": "allowList",
"fd_value": ""
}, {
"fd_name": "referCodeTable",
"fd_value": ""
}, {
"fd_name": "codeStandColumn",
"fd_value": ""
}, {
"fd_name": "dqcRule"
}, {
"fd_name": "ruleOwner",
"fd_value": "zty_tess"
}, {
"fd_name": "dataMonitorOwner",
"fd_value": "zty_tess"
}, {
"fd_name": "standardLevel",
"fd_value": ""
}, {
"fd_name": "description",
"fd_value": "This is a test case."
}
}]
}
```

Example Responses

Status code: 200

Success

```
{
  "data": {
    "value": {
      "values": [ {
        "fd_name": "nameCh",
        "fd_value": "test_create_data_standard",
        "fd_id": "1020622096960831488",
        "directory_id": "1228084836548411397",
        "row_id": "1228084992354222081",
        "id": "1228084992358416384",
        "status": "DRAFT",
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "create_time": "2024-04-11T20:51:18.894+08:00",
        "update_time": "2024-04-11T20:51:18.894+08:00"
      }, {
        "fd_name": "nameEn",
        "fd_value": "DS006001",
        "fd_id": "1020622096985997312",
        "directory_id": "1228084836548411397",
        "row_id": "1228084992354222081",
        "id": "1228084992358416385",
        "status": "DRAFT",
```



```
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-04-11T20:51:18.894+08:00",
"update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "englishName",
  "fd_value" : "test_create_data_standard",
  "fd_id" : "1185628711836360704",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416386",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "dataType",
  "fd_value" : "STRING",
  "fd_id" : "1020622097006968832",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416387",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "dataLength",
  "fd_value" : "1,256",
  "fd_id" : "1020622097032134656",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416388",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "hasAllowValueList",
  "fd_value" : "false",
  "fd_id" : "1020622097048911872",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416389",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "allowList",
  "fd_value" : "",
  "fd_id" : "1020622097065689088",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416390",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "referCodeTable",
  "fd_value" : "",
  "fd_id" : "1020622097086660608",
  "directory_id" : "1228084836548411397",
```

```
"row_id" : "1228084992354222081",
"id" : "1228084992358416391",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-04-11T20:51:18.894+08:00",
"update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "codeStandColumn",
  "fd_value" : "",
  "fd_id" : "1020622097103437824",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416392",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "dqcRule",
  "fd_value" : null,
  "fd_id" : "1020622097124409344",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416393",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "ruleOwner",
  "fd_value" : "zty_tess",
  "fd_id" : "1020622097141186560",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416394",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "dataMonitorOwner",
  "fd_value" : "zty_tess",
  "fd_id" : "1020622097162158080",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416395",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "standardLevel",
  "fd_value" : "",
  "fd_id" : "1020622097178935296",
  "directory_id" : "1228084836548411397",
  "row_id" : "1228084992354222081",
  "id" : "1228084992358416396",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T20:51:18.894+08:00",
  "update_time" : "2024-04-11T20:51:18.894+08:00"
}, {
  "fd_name" : "description",
```

```
"fd_value" : "This is a test case.",
"fd_id" : "1020622097195712512",
"directory_id" : "1228084836548411397",
"row_id" : "1228084992354222081",
"id" : "1228084992358416397",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-04-11T20:51:18.894+08:00",
"update_time" : "2024-04-11T20:51:18.894+08:00"
}],
"id" : "1228084992354222081",
"directory_id" : "1228084836548411397",
"directory_path" : null,
"row_id" : null,
"status" : "DRAFT",
"approval_info" : null,
"new_biz" : null,
"from_public" : false,
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-04-11T20:51:18.893+08:00",
"update_time" : "2024-04-11T20:51:18.893+08:00"
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a data standard based on parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateStandardSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateStandardRequest request = new CreateStandardRequest();
        StandElementValueVOList body = new StandElementValueVOList();
        List<StandElementValueVO> listbodyValues = new ArrayList<>();
        listbodyValues.add(
            new StandElementValueVO()
                .withFdName("nameCh")
                .withFdValue("test_create_data_standard")
        );
        listbodyValues.add(
            new StandElementValueVO()
                .withFdName("nameEn")
                .withFdValue("")
        );
        listbodyValues.add(
            new StandElementValueVO()
                .withFdName("englishName")
                .withFdValue("test_create_data_standard")
        );
        listbodyValues.add(
            new StandElementValueVO()
                .withFdName("dataType")
                .withFdValue("STRING")
        );
        listbodyValues.add(
            new StandElementValueVO()
                .withFdName("dataLength")
                .withFdValue("1,256")
        );
        listbodyValues.add(
            new StandElementValueVO()

```

```
        .withFdName("hasAllowValueList")
        .withFdValue("false")
    );
    listbodyValues.add(
        new StandElementValueVO()
        .withFdName("allowList")
        .withFdValue("")
    );
    listbodyValues.add(
        new StandElementValueVO()
        .withFdName("referCodeTable")
        .withFdValue("")
    );
    listbodyValues.add(
        new StandElementValueVO()
        .withFdName("codeStandColumn")
        .withFdValue("")
    );
    listbodyValues.add(
        new StandElementValueVO()
        .withFdName("dqcrule")
    );
    listbodyValues.add(
        new StandElementValueVO()
        .withFdName("ruleOwner")
        .withFdValue("zty_tess")
    );
    listbodyValues.add(
        new StandElementValueVO()
        .withFdName("dataMonitorOwner")
        .withFdValue("zty_tess")
    );
    listbodyValues.add(
        new StandElementValueVO()
        .withFdName("standardLevel")
        .withFdValue("")
    );
    listbodyValues.add(
        new StandElementValueVO()
        .withFdName("description")
        .withFdValue("This is a test case.")
    );
    body.withDirectoryId("1228084836548411397");
    body.withId("0");
    body.withValues(listbodyValues);
    request.withBody(body);
    try {
        CreateStandardResponse response = client.createStandard(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Create a data standard based on parameters.

```
# coding: utf-8
```

```
import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateStandardRequest()
        listValuesbody = [
            StandElementValueVO(
                fd_name="nameCh",
                fd_value="test_create_data_standard"
            ),
            StandElementValueVO(
                fd_name="nameEn",
                fd_value=""
            ),
            StandElementValueVO(
                fd_name="englishName",
                fd_value="test_create_data_standard"
            ),
            StandElementValueVO(
                fd_name="dataType",
                fd_value="STRING"
            ),
            StandElementValueVO(
                fd_name="dataLength",
                fd_value="1,256"
            ),
            StandElementValueVO(
                fd_name="hasAllowValueList",
                fd_value="false"
            ),
            StandElementValueVO(
                fd_name="allowList",
                fd_value=""
            ),
            StandElementValueVO(
                fd_name="referCodeTable",
                fd_value=""
            ),
            StandElementValueVO(
                fd_name="codeStandColumn",
                fd_value=""
            ),
            StandElementValueVO(
                fd_name="dqcRule"
            ),
            StandElementValueVO(
                fd_name="ruleOwner",
                fd_value="zty_tess"
            ),
        ],
```

```
StandElementValueVO(  
    fd_name="dataMonitorOwner",  
    fd_value="zty_tess"  
),  
StandElementValueVO(  
    fd_name="standardLevel",  
    fd_value=""  
),  
StandElementValueVO(  
    fd_name="description",  
    fd_value="This is a test case."  
)  
]  
request.body = StandElementValueVOList(  
    directory_id="1228084836548411397",  
    id="0",  
    values=listValuesbody  
)  
response = client.create_standard(request)  
print(response)  
except exceptions.ClientRequestException as e:  
    print(e.status_code)  
    print(e.request_id)  
    print(e.error_code)  
    print(e.error_msg)
```

Go

Create a data standard based on parameters.

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build())  
  
    request := &model.CreateStandardRequest{  
        fdValueValues:= "test_create_data_standard"  
        fdValueValues1:= ""  
        fdValueValues2:= "test_create_data_standard"  
        fdValueValues3:= "STRING"  
        fdValueValues4:= "1,256"  
        fdValueValues5:= "false"  
    }
```

```
fdValueValues6:= ""
fdValueValues7:= ""
fdValueValues8:= ""
fdValueValues9:= "zty_tess"
fdValueValues10:= "zty_tess"
fdValueValues11:= ""
fdValueValues12:= "This is a test case."
var listValuesbody = []model.StandElementValueVo{
    {
        FdName: "nameCh",
        FdValue: &fdValueValues,
    },
    {
        FdName: "nameEn",
        FdValue: &fdValueValues1,
    },
    {
        FdName: "englishName",
        FdValue: &fdValueValues2,
    },
    {
        FdName: "dataType",
        FdValue: &fdValueValues3,
    },
    {
        FdName: "dataLength",
        FdValue: &fdValueValues4,
    },
    {
        FdName: "hasAllowValueList",
        FdValue: &fdValueValues5,
    },
    {
        FdName: "allowList",
        FdValue: &fdValueValues6,
    },
    {
        FdName: "referCodeTable",
        FdValue: &fdValueValues7,
    },
    {
        FdName: "codeStandColumn",
        FdValue: &fdValueValues8,
    },
    {
        FdName: "dqcRule",
    },
    {
        FdName: "ruleOwner",
        FdValue: &fdValueValues9,
    },
    {
        FdName: "dataMonitorOwner",
        FdValue: &fdValueValues10,
    },
    {
        FdName: "standardLevel",
        FdValue: &fdValueValues11,
    },
    {
        FdName: "description",
        FdValue: &fdValueValues12,
    },
}
idStandElementValueVoList:= "0"
request.Body = &model.StandElementValueVoList{
    DirectoryId: "1228084836548411397",
    Id: &idStandElementValueVoList,
    Values: listValuesbody,
}
```



```
}  
response, err := client.CreateStandard(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.3.3 Deleting Data Standards

Function

Delete a data standard.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/standards

Table 7-85 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-86 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-87 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string

Parameter	Mandatory	Type	Description
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-88 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-89 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-90 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-91 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-92 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-93 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Delete a data standard.

```
DELETE https://{endpoint}/v2/{project_id}/design/standards
{
  "ids" : [ "1228086003290537985", "1228084992354222081" ]
}
```

Example Responses

Status code: 200

Success. The returned data is the number of deleted data records. Note that the transferred ID list is rowid, and the entire data standard instead of an attribute is deleted.

```
{
  "data" : {
    "value" : 0
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Delete a data standard.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
```

```
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteStandardSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteStandardRequest request = new DeleteStandardRequest();
        IdsParam body = new IdsParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1228086003290537985");
        listbodyIds.add("1228084992354222081");
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
            DeleteStandardResponse response = client.deleteStandard(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Delete a data standard.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = DeleteStandardRequest()
    listIdsbody = [
        "1228086003290537985",
        "1228084992354222081"
    ]
    request.body = IdsParam(
        ids=listIdsbody
    )
    response = client.delete_standard(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Delete a data standard.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteStandardRequest{}
    var listIdsbody = []string{
        "1228086003290537985",
        "1228084992354222081",
    }
}
```

```
request.Body = &model.IdsParam{
  Ids: listIdsbody,
}
response, err := client.DeleteStandard(request)
if err == nil {
  fmt.Printf("%v\n", response)
} else {
  fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success. The returned data is the number of deleted data records. Note that the transferred ID list is rowid, and the entire data standard instead of an attribute is deleted.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.3.4 Modifying Data Standards

Function

Modify the data standard.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/standards/{id}

Table 7-94 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Request Parameters

Table 7-95 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-96 Request body parameters

Parameter	Mandatory	Type	Description
values	Yes	Array of StandElementValueVO objects	Attributes
id	No	String	Data standard ID, which is a string
directory_id	Yes	String	ID of the directory to which the standard belongs. The value is a string.
directory_path	No	String	Directory tree.
row_id	No	String	Row ID, which is a string
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.
from_public	No	Boolean	Indicates whether the data is from the public layer.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-97 StandElementValueVO

Parameter	Mandatory	Type	Description
fd_name	Yes	String	Attribute name.
fd_value	No	String	Property value.
fd_id	No	String	Attribute ID, which is a string
directory_id	No	String	ID of the directory to which the standard belongs. The value is a string.
row_id	No	String	ID of the row to which the standard belongs. The value is a string.
id	No	String	Data standard ID, which is a string
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-98 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.

Parameter	Mandatory	Type	Description
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-99 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Response Parameters

Status code: 200

Table 7-100 Response body parameters

Parameter	Type	Description
data	data object	The data standard is updated and the data result is returned.

Table 7-101 data

Parameter	Type	Description
value	StandElementValueVOList object	Attribute value list.

Table 7-102 StandElementValueVOList

Parameter	Type	Description
values	Array of StandElementValueVO objects	Attributes
id	String	Data standard ID, which is a string
directory_id	String	ID of the directory to which the standard belongs. The value is a string.

Parameter	Type	Description
directory_path	String	Directory tree.
row_id	String	Row ID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-103 StandElementValueVO

Parameter	Type	Description
fd_name	String	Attribute name.
fd_value	String	Property value.
fd_id	String	Attribute ID, which is a string
directory_id	String	ID of the directory to which the standard belongs. The value is a string.
row_id	String	ID of the row to which the standard belongs. The value is a string.
id	String	Data standard ID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-104 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-105 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-106 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-107 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-108 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-109 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Modify the information about the data standard whose ID is 1082235079767502848.

```
PUT https://{endpoint}/v2/{project_id}/design/standards/1082235079767502848
```

```
{
  "id": "1082235079767502848",
  "directory_id": "1082230138994827264",
  "values": [ {
    "id": "1082235079767502860",
```

```
    "fd_name": "nameCh",
    "fd_value": "Test 8 MB Data Standard Import 111449"
  }, {
    "id": "1082235079767502861",
    "fd_name": "nameEn",
    "fd_value": "qn_test_1450_update"
  }, {
    "fd_name": "englishName",
    "fd_value": ""
  }, {
    "id": "1082235079767502862",
    "fd_name": "dataType",
    "fd_value": "STRING"
  }, {
    "id": "1082235079767502849",
    "fd_name": "dataLength",
    "fd_value": "100"
  }, {
    "id": "1082235079767502850",
    "fd_name": "hasAllowValueList",
    "fd_value": false
  }, {
    "id": "1082235079767502851",
    "fd_name": "allowList",
    "fd_value": ""
  }, {
    "id": "1082235079767502852",
    "fd_name": "referCodeTable",
    "fd_value": ""
  }, {
    "id": "1082235079767502853",
    "fd_name": "codeStandColumn"
  }, {
    "fd_name": "dqcrule"
  }, {
    "id": "1082235079767502854",
    "fd_name": "ruleOwner",
    "fd_value": "zty_tess"
  }, {
    "id": "1082235079767502855",
    "fd_name": "dataMonitorOwner",
    "fd_value": "zty_tess"
  }, {
    "id": "1082235079767502856",
    "fd_name": "standardLevel"
  }, {
    "id": "1082235079767502857",
    "fd_name": "description",
    "fd_value": "Test the description of importing the 8 MB data standard."
  }
}
}
```

Example Responses

Status code: 200

Success

```
{
  "data": {
    "value": {
      "values": [ {
        "fd_name": "nameCh",
        "fd_value": "Test 8 MB Data Standard Import 111449",
        "fd_id": "1020622096960831488",
        "directory_id": "1082230138994827264",
        "row_id": "1082235079767502848",
        "id": "1082235079767502860",
        "status": "DRAFT",
```

```
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2023-03-06T09:35:50+08:00",
"update_time" : "2024-04-11T21:05:51.366+08:00"
}, {
  "fd_name" : "nameEn",
  "fd_value" : "qn_test_1450_update",
  "fd_id" : "1020622096985997312",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1082235079767502861",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2023-03-06T09:35:50+08:00",
  "update_time" : "2024-04-11T21:05:51.366+08:00"
}, {
  "fd_name" : "englishName",
  "fd_value" : "",
  "fd_id" : "1185628711836360704",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1228088651729272832",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T21:05:51.356+08:00",
  "update_time" : "2024-04-11T21:05:51.356+08:00"
}, {
  "fd_name" : "dataType",
  "fd_value" : "STRING",
  "fd_id" : "1020622097006968832",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1082235079767502862",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2023-03-06T09:35:50+08:00",
  "update_time" : "2024-04-11T21:05:51.366+08:00"
}, {
  "fd_name" : "dataLength",
  "fd_value" : "100",
  "fd_id" : "1020622097032134656",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1082235079767502849",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2023-03-06T09:35:50+08:00",
  "update_time" : "2024-04-11T21:05:51.366+08:00"
}, {
  "fd_name" : "hasAllowValueList",
  "fd_value" : "false",
  "fd_id" : "1020622097048911872",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1082235079767502850",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2023-03-06T09:35:50+08:00",
  "update_time" : "2024-04-11T21:05:51.366+08:00"
}, {
  "fd_name" : "allowList",
  "fd_value" : "",
  "fd_id" : "1020622097065689088",
  "directory_id" : "1082230138994827264",
```



```
"row_id" : "1082235079767502848",
"id" : "1082235079767502851",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2023-03-06T09:35:50+08:00",
"update_time" : "2024-04-11T21:05:51.366+08:00"
}, {
  "fd_name" : "referCodeTable",
  "fd_value" : "",
  "fd_id" : "1020622097086660608",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1082235079767502852",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2023-03-06T09:35:50+08:00",
  "update_time" : "2024-04-11T21:05:51.366+08:00"
}, {
  "fd_name" : "codeStandColumn",
  "fd_value" : null,
  "fd_id" : "1020622097103437824",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1082235079767502853",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2023-03-06T09:35:50+08:00",
  "update_time" : "2023-03-06T09:35:50+08:00"
}, {
  "fd_name" : "dqcRule",
  "fd_value" : null,
  "fd_id" : "1020622097124409344",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1228088651729272833",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-04-11T21:05:51.356+08:00",
  "update_time" : "2024-04-11T21:05:51.356+08:00"
}, {
  "fd_name" : "ruleOwner",
  "fd_value" : "zty_tess",
  "fd_id" : "1020622097141186560",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1082235079767502854",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2023-03-06T09:35:50+08:00",
  "update_time" : "2024-04-11T21:05:51.366+08:00"
}, {
  "fd_name" : "dataMonitorOwner",
  "fd_value" : "zty_tess",
  "fd_id" : "1020622097162158080",
  "directory_id" : "1082230138994827264",
  "row_id" : "1082235079767502848",
  "id" : "1082235079767502855",
  "status" : "DRAFT",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2023-03-06T09:35:50+08:00",
  "update_time" : "2024-04-11T21:05:51.366+08:00"
}, {
  "fd_name" : "standardLevel",
```

```
"fd_value" : null,
"fd_id" : "1020622097178935296",
"directory_id" : "1082230138994827264",
"row_id" : "1082235079767502848",
"id" : "1082235079767502856",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2023-03-06T09:35:50+08:00",
"update_time" : "2023-03-06T09:35:50+08:00"
}, {
"fd_name" : "description",
"fd_value" : "Test the description of importing the 8 MB data standard.",
"fd_id" : "1020622097195712512",
"directory_id" : "1082230138994827264",
"row_id" : "1082235079767502848",
"id" : "1082235079767502857",
"status" : "DRAFT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2023-03-06T09:35:50+08:00",
"update_time" : "2024-04-11T21:05:51.366+08:00"
}],
"id" : "1082235079767502848",
"directory_id" : "1082230138994827264",
"directory_path" : null,
"row_id" : null,
"status" : "DRAFT",
"approval_info" : null,
"new_biz" : null,
"from_public" : false,
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2023-03-06T09:35:50+08:00",
"update_time" : "2024-04-11T21:05:51.355+08:00"
}
}
}
```

Status code: 400

BadRequest

```
{
"error_code" : "DS.60xx",
"error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
"error_code" : "DS.60xx",
"error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
"error_code" : "DS.60xx",
"error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Modify the information about the data standard whose ID is 1082235079767502848.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class UpdateStandardSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateStandardRequest request = new UpdateStandardRequest();
        request.withId("{id}");
        StandElementValueVOList body = new StandElementValueVOList();
        List<StandElementValueVO> listbodyValues = new ArrayList<>();
        listbodyValues.add(
            new StandElementValueVO()
                .withFdName("nameCh")
                .withFdValue("Test 8 MB Data Standard Import 111449")
                .withId("1082235079767502860")
        );
        listbodyValues.add(
            new StandElementValueVO()
                .withFdName("nameEn")
                .withFdValue("qn_test_1450_update")
                .withId("1082235079767502861")
        );
        listbodyValues.add(
            new StandElementValueVO()

```

```
.withFdName("englishName")
.withFdValue("")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("dataType")
        .withFdValue("STRING")
        .withId("1082235079767502862")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("dataLength")
        .withFdValue("100")
        .withId("1082235079767502849")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("hasAllowValueList")
        .withFdValue("false")
        .withId("1082235079767502850")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("allowList")
        .withFdValue("")
        .withId("1082235079767502851")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("referCodeTable")
        .withFdValue("")
        .withId("1082235079767502852")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("codeStandColumn")
        .withId("1082235079767502853")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("dqcRule")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("ruleOwner")
        .withFdValue("zty_tess")
        .withId("1082235079767502854")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("dataMonitorOwner")
        .withFdValue("zty_tess")
        .withId("1082235079767502855")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("standardLevel")
        .withId("1082235079767502856")
);
listbodyValues.add(
    new StandElementValueVO()
        .withFdName("description")
        .withFdValue("Test the description of importing the 8 MB data standard.")
        .withId("1082235079767502857")
);
body.withDirectoryId("1082230138994827264");
body.withId("1082235079767502848");
body.withValues(listbodyValues);
request.withBody(body);
```

```
try {
    UpdateStandardResponse response = client.updateStandard(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Modify the information about the data standard whose ID is 1082235079767502848.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateStandardRequest()
        request.id = "{id}"
        listValuesbody = [
            StandElementValueVO(
                fd_name="nameCh",
                fd_value="Test 8 MB Data Standard Import 111449",
                id="1082235079767502860"
            ),
            StandElementValueVO(
                fd_name="nameEn",
                fd_value="qn_test_1450_update",
                id="1082235079767502861"
            ),
            StandElementValueVO(
                fd_name="englishName",
                fd_value=""
            ),
            StandElementValueVO(
                fd_name="dataType",
                fd_value="STRING",
                id="1082235079767502862"
            )
        ]
```

```
    ),
    StandElementValueVO(
      fd_name="dataLength",
      fd_value="100",
      id="1082235079767502849"
    ),
    StandElementValueVO(
      fd_name="hasAllowValueList",
      fd_value="false",
      id="1082235079767502850"
    ),
    StandElementValueVO(
      fd_name="allowList",
      fd_value="",
      id="1082235079767502851"
    ),
    StandElementValueVO(
      fd_name="referCodeTable",
      fd_value="",
      id="1082235079767502852"
    ),
    StandElementValueVO(
      fd_name="codeStandColumn",
      id="1082235079767502853"
    ),
    StandElementValueVO(
      fd_name="dqcRule"
    ),
    StandElementValueVO(
      fd_name="ruleOwner",
      fd_value="zty_tess",
      id="1082235079767502854"
    ),
    StandElementValueVO(
      fd_name="dataMonitorOwner",
      fd_value="zty_tess",
      id="1082235079767502855"
    ),
    StandElementValueVO(
      fd_name="standardLevel",
      id="1082235079767502856"
    ),
    StandElementValueVO(
      fd_name="description",
      fd_value="Test the description of importing the 8 MB data standard.",
      id="1082235079767502857"
    )
  ]
  request.body = StandElementValueVOList(
    directory_id="1082230138994827264",
    id="1082235079767502848",
    values=listValuesbody
  )
  response = client.update_standard(request)
  print(response)
except exceptions.ClientRequestException as e:
  print(e.status_code)
  print(e.request_id)
  print(e.error_code)
  print(e.error_msg)
```

Go

Modify the information about the data standard whose ID is 1082235079767502848.

```
package main
import (
```

```
"fmt"  
"github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build()  
    )  
  
    request := &model.UpdateStandardRequest{  
        request.Id = "{id}"  
        fdValueValues:= "Test 8 MB Data Standard Import 111449"  
        idValues:= "1082235079767502860"  
        fdValueValues1:= "qn_test_1450_update"  
        idValues1:= "1082235079767502861"  
        fdValueValues2:= ""  
        fdValueValues3:= "STRING"  
        idValues2:= "1082235079767502862"  
        fdValueValues4:= "100"  
        idValues3:= "1082235079767502849"  
        fdValueValues5:= "false"  
        idValues4:= "1082235079767502850"  
        fdValueValues6:= ""  
        idValues5:= "1082235079767502851"  
        fdValueValues7:= ""  
        idValues6:= "1082235079767502852"  
        idValues7:= "1082235079767502853"  
        fdValueValues8:= "zty_tess"  
        idValues8:= "1082235079767502854"  
        fdValueValues9:= "zty_tess"  
        idValues9:= "1082235079767502855"  
        idValues10:= "1082235079767502856"  
        fdValueValues10:= "Test the description of importing the 8 MB data standard."  
        idValues11:= "1082235079767502857"  
        var listValuesbody = []model.StandElementValueVo{  
            {  
                FdName: "nameCh",  
                FdValue: &fdValueValues,  
                Id: &idValues,  
            },  
            {  
                FdName: "nameEn",  
                FdValue: &fdValueValues1,  
                Id: &idValues1,  
            },  
            {  
                FdName: "englishName",  
                FdValue: &fdValueValues2,  
            },  
        },  
    }  
}
```

```
{
  {
    FdName: "dataType",
    FdValue: &fdValueValues3,
    Id: &idValues2,
  },
  {
    FdName: "dataLength",
    FdValue: &fdValueValues4,
    Id: &idValues3,
  },
  {
    FdName: "hasAllowValueList",
    FdValue: &fdValueValues5,
    Id: &idValues4,
  },
  {
    FdName: "allowList",
    FdValue: &fdValueValues6,
    Id: &idValues5,
  },
  {
    FdName: "referCodeTable",
    FdValue: &fdValueValues7,
    Id: &idValues6,
  },
  {
    FdName: "codeStandColumn",
    Id: &idValues7,
  },
  {
    FdName: "dqRule",
  },
  {
    FdName: "ruleOwner",
    FdValue: &fdValueValues8,
    Id: &idValues8,
  },
  {
    FdName: "dataMonitorOwner",
    FdValue: &fdValueValues9,
    Id: &idValues9,
  },
  {
    FdName: "standardLevel",
    Id: &idValues10,
  },
  {
    FdName: "description",
    FdValue: &fdValueValues10,
    Id: &idValues11,
  },
}
}
idStandElementValueVoList:= "1082235079767502848"
request.Body = &model.StandElementValueVoList{
  DirectoryId: "1082230138994827264",
  Id: &idStandElementValueVoList,
  Values: listValuesbody,
}
response, err := client.UpdateStandard(request)
if err == nil {
  fmt.Printf("%+v\n", response)
} else {
  fmt.Println(err)
}
}
```


More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.3.5 Viewing Data Standard Details

Function

This API is used to obtain data standard details by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/standards/{id}

Table 7-110 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Request Parameters

Table 7-111 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-112** Response body parameters

Parameter	Type	Description
data	data object	The data standard query returns the data result.

Table 7-113 data

Parameter	Type	Description
value	StandElementValueVOList object	Attribute value list.

Table 7-114 StandElementValueVOList

Parameter	Type	Description
values	Array of StandElementValueVO objects	Attributes
id	String	Data standard ID, which is a string
directory_id	String	ID of the directory to which the standard belongs. The value is a string.
directory_path	String	Directory tree.
row_id	String	Row ID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.

Parameter	Type	Description
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-115 StandElementValueVO

Parameter	Type	Description
fd_name	String	Attribute name.
fd_value	String	Property value.
fd_id	String	Attribute ID, which is a string
directory_id	String	ID of the directory to which the standard belongs. The value is a string.
row_id	String	ID of the row to which the standard belongs. The value is a string.
id	String	Data standard ID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-116 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-117 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-118 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-119 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-120 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-121 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Query details about the data standard whose ID is 1082235079767502848.

GET https://{endpoint}/v2/{project_id}/design/standards/1082235079767502848

Example Responses

Status code: 200

This operation succeeds, and the data standard details are returned.

```
{
  "data": {
    "value": {
      "id": 0,
      "directory_id": "793889791589650432",
      "values": [ {
        "fd_name": "nameEn",
        "fd_value": "demo"
      }, {
        "fd_name": "dataType",
        "fd_value": "STRING"
      }, {
        "fd_name": "dataLength",
        "fd_value": "128"
      }, {
        "fd_name": "hasAllowValueList",
        "fd_value": false
      }, {
        "fd_name": "allowList",
        "fd_value": ""
      }, {
        "fd_name": "referCodeTable",
        "fd_value": "885123958788317184"
      }, {
        "fd_name": "codeStandColumn",
        "fd_value": "52470"
      }, {
        "fd_name": "dqcRule",
        "fd_value": "{}"
      }, {
        "fd_name": "ruleOwner",
        "fd_value": "liuxu"
      }, {
        "fd_name": "dataMonitorOwner",
        "fd_value": "liuxu"
      }, {
        "fd_name": "standardLevel",
        "fd_value": "domain"
      }, {
        "fd_name": "description",
        "fd_value": "This is a demo."
      }
    ]
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
```

```
"error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowStandardByIdSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        ShowStandardByIdRequest request = new ShowStandardByIdRequest();  
        request.withId("{id}");  
        try {  
            ShowStandardByIdResponse response = client.showStandardById(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

```
}  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = ShowStandardByIdRequest()  
        request.id = "{id}"  
        response = client.show_standard_by_id(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()
```



```
client := dataartsstudio.NewDataArtsStudioClient(  
    dataartsstudio.DataArtsStudioClientBuilder().  
        WithRegion(region.ValueOf("<YOUR REGION>")).  
        WithCredential(auth).  
        Build())  
  
request := &model.ShowStandardByIdRequest{}  
request.Id = "{id}"  
response, err := client.ShowStandardById(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the data standard details are returned.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.3.6 Associated Attributes and Data Standards

Function

Associate attributes with data standards.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/standards/attribute

Table 7-122 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-123 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-124 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	Attribute ID list, which is a string
stand_row_id	Yes	String	ID of the associated data standard, which is a string
table_id	Yes	String	Table ID, which is a string
biz_type	Yes	String	Table type. The default value is TABLE_MODEL. Options: <ul style="list-style-type: none"> • TABLE_MODEL: relationship model (logical model/ physical model) • AGGREGATION_LOGIC_TABLE: summary table • FACT_LOGIC_TABLE: fact table • DIMENSION: dimension • DIMENSION_LOGIC_TABLE: dimension table

Response Parameters

Status code: 200

Table 7-125 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-126 data

Parameter	Type	Description
value	LinkAttributeAndElementVO object	Attribute ID list.

Table 7-127 LinkAttributeAndElementVO

Parameter	Type	Description
ids	Array of strings	Attribute ID list, which is a string
stand_row_id	String	ID of the associated data standard, which is a string
table_id	String	Table ID, which is a string
biz_type	String	Table type. The default value is TABLE_MODEL. Options: <ul style="list-style-type: none"> • TABLE_MODEL: relationship model (logical model/physical model) • AGGREGATION_LOGIC_TABLE: summary table • FACT_LOGIC_TABLE: fact table • DIMENSION: dimension • DIMENSION_LOGIC_TABLE: dimension table

Status code: 400

Table 7-128 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-129 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-130 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-131 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Associate table attributes with data standards based on request parameters.

PUT https://{endpoint}/v2/{project_id}/design/standards/attribute

```
{
  "ids" : [ "1229920251374923780" ],
  "stand_row_id" : "1169318364674498561",
  "table_id" : "1229920251379118081",
  "biz_type" : "TABLE_MODEL"
}
```

Example Responses

Status code: 200

Success

```
{
  "data" : {
    "value" : {
      "ids" : [ "1229920251374923780" ],
      "stand_row_id" : "1169318364674498561",
      "table_id" : "1229920251379118081",

```

```
"biz_type" : "TABLE_MODEL"  
}  
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Associate table attributes with data standards based on request parameters.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class ResetLinkAttributeAndStandardSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
```

```
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ResetLinkAttributeAndStandardRequest request = new ResetLinkAttributeAndStandardRequest();
LinkAttributeAndElementVO body = new LinkAttributeAndElementVO();
List<String> listbodyIds = new ArrayList<>();
listbodyIds.add("1229920251374923780");
body.withBizType(LinkAttributeAndElementVO.BizTypeEnum.fromValue("TABLE_MODEL"));
body.withTableId("1229920251379118081");
body.withStandRowId("1169318364674498561");
body.withIds(listbodyIds);
request.withBody(body);
try {
    ResetLinkAttributeAndStandardResponse response = client.resetLinkAttributeAndStandard(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Associate table attributes with data standards based on request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
```

```
.with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
.build()

try:
    request = ResetLinkAttributeAndStandardRequest()
    listIdsbody = [
        "1229920251374923780"
    ]
    request.body = LinkAttributeAndElementVO(
        biz_type="TABLE_MODEL",
        table_id="1229920251379118081",
        stand_row_id="1169318364674498561",
        ids=listIdsbody
    )
    response = client.reset_link_attribute_and_standard(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Associate table attributes with data standards based on request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ResetLinkAttributeAndStandardRequest{}
    var listIdsbody = []string{
        "1229920251374923780",
    }
    request.Body = &model.LinkAttributeAndElementVo{
        BizType: model.GetLinkAttributeAndElementVoBizTypeEnum().TABLE_MODEL,
        TableId: "1229920251379118081",
        StandRowId: "1169318364674498561",
        Ids: listIdsbody,
    }
    response, err := client.ResetLinkAttributeAndStandard(request)
```



```
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.4 Data Sources

7.4.1 Obtaining Data Connection Information

Function

This API is used to obtain data connection information of a specified type.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/atlas/data-warehouses

Table 7-132 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-133 Query Parameters

Parameter	Mandatory	Type	Description
force_refresh	No	Boolean	Indicates whether to query the latest.
dw_type	Yes	String	Data connection type.
limit	No	Integer	limit
offset	No	Integer	limit

Request Parameters

Table 7-134 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-135 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-136 data

Parameter	Type	Description
value	Array of DataConnectionVO objects	Data connection information array

Table 7-137 DataConnectionVO

Parameter	Type	Description
dw_name	String	Name of a data connection.
dw_id	String	Data connection ID.
display_name	String	Data connection name, which adapts to the existing implementation.
dw_type	String	Data connection type.

Status code: 400

Table 7-138 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-139 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-140 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Obtain information about a DWS data connection.

```
GET https://{endpoint}/v2/{project_id}/design/atlas/data-warehouses?dw_type=DWS
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is all DataConnectionVO entities of the specified type.

```
{
  "data" : {
    "value" : [ {
      "dw_id" : "c5daea963128457cb7579404da5a23c7",
      "dw_name" : "dws_test",
      "dw_type" : "DWS"
    } ]
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchDwByTypeSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchDwByTypeRequest request = new SearchDwByTypeRequest();
        try {
            SearchDwByTypeResponse response = client.searchDwByType(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
        }
    }
}
```

```
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchDwByTypeRequest()
        response = client.search_dw_by_type(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
```

```
WithProjectId(projectId).
Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.SearchDwByTypeRequest{}
response, err := client.SearchDwByType(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is all DataConnectionVO entities of the specified type.
400	BadRequest
401	Unauthorized
403	Forbidden

7.5 Process Architecture

7.5.1 Obtain all BPA directory trees.

Function

This API is used to obtain all directory trees.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/biz/catalogs/tree

Table 7-141 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-142 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-143 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-144 data

Parameter	Type	Description
value	Array of BizCatalogVO objects	value: unified outer data structure of the returned result.

Table 7-145 BizCatalogVO

Parameter	Type	Description
name	String	Workflow name
description	String	Description.
guid	String	ID in the corresponding asset.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID. If no parent directory ID exists, the parent directory is the root directory. ID string
prev_id	String	ID of the previous node. If there is no previous node ID, the node is the first node. ID string
next_id	String	ID of the next node. If there is no next node ID, the node is the tail node. ID string
id	String	This parameter is left empty during creation and is mandatory during update. ID string
qualified_id	String	Authentication ID, which is automatically generated.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
bizmetric_num	Integer	Number of service indicators, which is not transferred by the frontend.
children_num	Integer	Number of sub-processes, excluding sub-processes.
children	Array of BizCatalogVO objects	Lower-level subdirectory, which is read-only.

Status code: 400**Table 7-146** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-147** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-148** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-149** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain all directory trees.

```
PUT https://{endpoint}/v2/{project_id}/design/biz/catalogs/tree
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a directory with subdirectories.

```
{
  "data": {
    "value": [ {
      "name": "test_czh_02",
      "description": null,
      "guid": "cb46da58-2430-4148-ae3f-0c526143ab07",
      "owner": "{ \"owners\": [ \"test_uesr\" ] }",
      "parent_id": null,
      "prev_id": "1193123592125169667",
      "next_id": "1200475693864079360",
      "id": "1193123592129363971",
      "qualified_id": "1193123592129363971",
      "create_by": "test_uesr",
      "update_by": "test_uesr",
      "create_time": "2024-01-06T09:27:12+08:00",
      "update_time": "2024-01-06T10:41:20+08:00",
    }
  ]
}
```

```
"bizmetric_num" : null,  
"children_num" : null,  
"children" : null  
  ]]  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ListCatalogTreeSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running
```

this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListCatalogTreeRequest request = new ListCatalogTreeRequest();
try {
    ListCatalogTreeResponse response = client.listCatalogTree(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListCatalogTreeRequest()
        response = client.list_catalog_tree(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListCatalogTreeRequest{}
    response, err := client.ListCatalogTree(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a directory with subdirectories.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.5.2 Querying the BPA List

Function

This API is used to query the process architecture list.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/biz/catalogs

Table 7-150 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-151 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
owner	No	String	Query by owner.
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Mandatory	Type	Description
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-152 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-153 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-154 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-155 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of BizCatalogVO objects	BPA details.

Table 7-156 BizCatalogVO

Parameter	Type	Description
name	String	Workflow name
description	String	Description.
guid	String	ID in the corresponding asset.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID. If no parent directory ID exists, the parent directory is the root directory. ID string
prev_id	String	ID of the previous node. If there is no previous node ID, the node is the first node. ID string
next_id	String	ID of the next node. If there is no next node ID, the node is the tail node. ID string
id	String	This parameter is left empty during creation and is mandatory during update. ID string
qualified_id	String	Authentication ID, which is automatically generated.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
bizmetric_num	Integer	Number of service indicators, which is not transferred by the frontend.
children_num	Integer	Number of sub-processes, excluding sub-processes.
children	Array of BizCatalogVO objects	Lower-level subdirectory, which is read-only.

Status code: 400**Table 7-157** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-158** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-159** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-160 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query the process list in the process design.

```
POST https://{endpoint}/v2/{project_id}/design/biz/catalogs
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a BizCatalogVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "name": "test_czh_l2_01",
        "description": "aaa",
        "guid": "a43bf2af-0449-4748-bdc0-f500e1d82921",
        "owner": "{\"owners\": [\"test_uesr\"]}",
        "parent_id": "1193123592125169667",
        "prev_id": null,
        "next_id": null,
        "id": "1193132546607693824",
        "qualified_id": "1193123592125169667.1193132546607693824",
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "create_time": "2024-01-06T10:02:46+08:00",
        "update_time": "2024-01-06T10:02:46+08:00",
        "bizmetric_num": null,
        "children_num": null,
        "children": null
      } ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code": "DS.60xx",
  "error_msg": "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchCatalogsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchCatalogsRequest request = new SearchCatalogsRequest();
        try {
            SearchCatalogsResponse response = client.searchCatalogs(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        }
    }
}
```

```
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchCatalogsRequest()
        response = client.search_catalogs(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
```

```
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.SearchCatalogsRequest{}
response, err := client.SearchCatalogs(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a BizCatalogVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.5.3 Create BPA

Function

Create a process architecture.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/biz/catalogs

Table 7-161 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-162 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-163 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Workflow name
description	No	String	Description.
guid	No	String	ID in the corresponding asset.
owner	Yes	String	Owner of the instance.
parent_id	No	String	Parent directory ID. If no parent directory ID exists, the parent directory is the root directory. ID string
prev_id	No	String	ID of the previous node. If there is no previous node ID, the node is the first node. ID string
next_id	No	String	ID of the next node. If there is no next node ID, the node is the tail node. ID string
id	Yes	String	This parameter is left empty during creation and is mandatory during update. ID string
qualified_id	No	String	Authentication ID, which is automatically generated.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
bizmetric_num	No	Integer	Number of service indicators, which is not transferred by the frontend.
children_num	No	Integer	Number of sub-processes, excluding sub-processes.

Response Parameters

Status code: 200

Table 7-164 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-165 data

Parameter	Type	Description
value	BizCatalogVO object	BPA directory.

Table 7-166 BizCatalogVO

Parameter	Type	Description
name	String	Workflow name
description	String	Description.
guid	String	ID in the corresponding asset.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID. If no parent directory ID exists, the parent directory is the root directory. ID string
prev_id	String	ID of the previous node. If there is no previous node ID, the node is the first node. ID string
next_id	String	ID of the next node. If there is no next node ID, the node is the tail node. ID string
id	String	This parameter is left empty during creation and is mandatory during update. ID string
qualified_id	String	Authentication ID, which is automatically generated.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
bizmetric_num	Integer	Number of service indicators, which is not transferred by the frontend.
children_num	Integer	Number of sub-processes, excluding sub-processes.
children	Array of BizCatalogVO objects	Lower-level subdirectory, which is read-only.

Status code: 400**Table 7-167** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-168** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-169 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-170 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a process architecture based on the input parameters.

```
POST https://{endpoint}/v2/{project_id}/design/biz/catalogs
{
  "id": "0",
  "name": "test_create_biz_catalog",
  "parent_id": null,
  "prev_id": "1200475693864079360",
  "owner": "{\"owners\": [\"test_uesr\"]}",
  "description": "this is a demo."
}
```

Example Responses

Status code: 200

Success. The returned data is BizCatalogVO.

```
{
  "data": {
    "value": {
      "name": "test_create_biz_catalog",
      "description": "this is a demo.",
      "guid": null,
      "owner": "{\"owners\": [\"test_uesr\"]}"
    }
  }
}
```

```
"parent_id" : null,
"prev_id" : "1200475693864079360",
"next_id" : null,
"id" : "1230473571248308224",
"qualified_id" : "1230473571248308224",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-04-18T11:02:40.577+08:00",
"update_time" : "2024-04-18T11:02:40.577+08:00",
"bizmetric_num" : null,
"children_num" : null,
"children" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a process architecture based on the input parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
```

```
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class CreateCatalogSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        CreateCatalogRequest request = new CreateCatalogRequest();
        BizCatalogVO body = new BizCatalogVO();
        body.withId("0");
        body.withPrevid("1200475693864079360");
        body.withOwner("{\"owners\": [\"test_ues\"]}");
        body.withDescription("this is a demo.");
        body.withName("test_create_biz_catalog");
        request.withBody(body);
        try {
            CreateCatalogResponse response = client.createCatalog(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Create a process architecture based on the input parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = CreateCatalogRequest()
    request.body = BizCatalogVO(
        id="0",
        prev_id="1200475693864079360",
        owner="{\"owners\": [\"test_uesr\"]}",
        description="this is a demo.",
        name="test_create_biz_catalog"
    )
    response = client.create_catalog(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Create a process architecture based on the input parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateCatalogRequest{}
    prevIdBizCatalogVo := "1200475693864079360"
    descriptionBizCatalogVo := "this is a demo."
    request.Body = &model.BizCatalogVo{
        Id: "0",
```

```
PrevId: &prevIdBizCatalogVo,  
Owner: "{\"owners\":[\"test_uesr\"]}",  
Description: &descriptionBizCatalogVo,  
Name: "test_create_biz_catalog",  
}  
response, err := client.CreateCatalog(request)  
if err == nil {  
    fmt.Printf("%+v\\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success. The returned data is BizCatalogVO.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.5.4 Modified the process architecture.

Function

Modified the process architecture.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/biz/catalogs

Table 7-171 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-172 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-173 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Workflow name
description	No	String	Description.
guid	No	String	ID in the corresponding asset.
owner	Yes	String	Owner of the instance.
parent_id	No	String	Parent directory ID. If no parent directory ID exists, the parent directory is the root directory. ID string
prev_id	No	String	ID of the previous node. If there is no previous node ID, the node is the first node. ID string
next_id	No	String	ID of the next node. If there is no next node ID, the node is the tail node. ID string
id	Yes	String	This parameter is left empty during creation and is mandatory during update. ID string
qualified_id	No	String	Authentication ID, which is automatically generated.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
bizmetric_num	No	Integer	Number of service indicators, which is not transferred by the frontend.
children_num	No	Integer	Number of sub-processes, excluding sub-processes.

Response Parameters

Status code: 200

Table 7-174 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-175 data

Parameter	Type	Description
value	BizCatalogVO object	BPA directory.

Table 7-176 BizCatalogVO

Parameter	Type	Description
name	String	Workflow name
description	String	Description.
guid	String	ID in the corresponding asset.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID. If no parent directory ID exists, the parent directory is the root directory. ID string
prev_id	String	ID of the previous node. If there is no previous node ID, the node is the first node. ID string
next_id	String	ID of the next node. If there is no next node ID, the node is the tail node. ID string
id	String	This parameter is left empty during creation and is mandatory during update. ID string
qualified_id	String	Authentication ID, which is automatically generated.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
bizmetric_num	Integer	Number of service indicators, which is not transferred by the frontend.
children_num	Integer	Number of sub-processes, excluding sub-processes.
children	Array of BizCatalogVO objects	Lower-level subdirectory, which is read-only.

Status code: 400**Table 7-177** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-178** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-179 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-180 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Modify the process architecture based on the input parameters.

```
PUT https://{endpoint}/v2/{project_id}/design/biz/catalogs
{
  "name": "test_czh_l2_01",
  "parent_id": "1193123592125169667",
  "prev_id": null,
  "id": "1193132546607693824",
  "owner": "{\\"owners\\":[\\"test_uesr\\"]}",
  "description": "aaa"
}
```

Example Responses

Status code: 200

Success. The returned data is BizCatalogVO.

```
{
  "data": {
    "value": {
      "name": "test_czh_l2_01",
      "description": "aaa",
      "guid": null,
      "owner": "{\\"owners\\":[\\"test_uesr\\"]}"
    }
  }
}
```

```
"parent_id" : "1193123592125169667",
"prev_id" : null,
"next_id" : null,
"id" : "1193132546607693824",
"qualified_id" : null,
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-01-06T10:02:46+08:00",
"update_time" : "2024-04-18T11:47:07.035+08:00",
"bizmetric_num" : null,
"children_num" : null,
"children" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Modify the process architecture based on the input parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
```

```
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ChangeCatalogSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        ChangeCatalogRequest request = new ChangeCatalogRequest();
        BizCatalogVO body = new BizCatalogVO();
        body.withId("1193132546607693824");
        body.withParentId("1193123592125169667");
        body.withOwner("{\"owners\": [\"test_ues\"]}");
        body.withDescription("aaa");
        body.withName("test_czh_l2_01");
        request.withBody(body);
        try {
            ChangeCatalogResponse response = client.changeCatalog(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Modify the process architecture based on the input parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ChangeCatalogRequest()
    request.body = BizCatalogVO(
        id="1193132546607693824",
        parent_id="1193123592125169667",
        owner="{\"owners\": [\"test_uesr\"]}",
        description="aaa",
        name="test_czh_l2_01"
    )
    response = client.change_catalog(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Modify the process architecture based on the input parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ChangeCatalogRequest{
        parentIdBizCatalogVo:= "1193123592125169667"
        descriptionBizCatalogVo:= "aaa"
        request.Body = &model.BizCatalogVo{
            Id: "1193132546607693824",
```



```
ParentId: &parentIdBizCatalogVo,  
Owner: "{\"owners\":[\"test_uesr\"]}",  
Description: &descriptionBizCatalogVo,  
Name: "test_czh_l2_01",  
}  
response, err := client.ChangeCatalog(request)  
if err == nil {  
    fmt.Printf("%+v\\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success. The returned data is BizCatalogVO.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.5.5 Delete BPA

Function

Deleted the BPA.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/biz/catalogs

Table 7-181 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-182 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-183 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> • PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-184 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-185 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-186 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401**Table 7-187** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-188** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-189** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API deletes a process architecture based on the input parameters.

```
DELETE https://{endpoint}/v2/{project_id}/design/biz/catalogs
{
  "ids" : [ "1193132546607693824" ]
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of deleted data records.

```
{
  "data" : {
    "value" : 1
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API deletes a process architecture based on the input parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteCatalogSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteCatalogRequest request = new DeleteCatalogRequest();
        IdsParam body = new IdsParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1193132546607693824");
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
            DeleteCatalogResponse response = client.deleteCatalog(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

This API deletes a process architecture based on the input parameters.

```
# coding: utf-8
```

```
import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteCatalogRequest()
        listIdsbody = [
            "1193132546607693824"
        ]
        request.body = IdsParam(
            ids=listIdsbody
        )
        response = client.delete_catalog(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

This API deletes a process architecture based on the input parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()
```

```
client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.DeleteCatalogRequest{}
var listIdsbody = []string{
    "1193132546607693824",
}
request.Body = &model.IdsParam{
    Ids: listIdsbody,
}
response, err := client.DeleteCatalog(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.5.6 Search for BPA Details

Function

Search for BPA details.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/biz/catalogs/{id}

Table 7-190 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Request Parameters

Table 7-191 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-192 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-193 data

Parameter	Type	Description
value	BizCatalogVO object	BPA directory.

Table 7-194 BizCatalogVO

Parameter	Type	Description
name	String	Workflow name
description	String	Description.
guid	String	ID in the corresponding asset.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID. If no parent directory ID exists, the parent directory is the root directory. ID string
prev_id	String	ID of the previous node. If there is no previous node ID, the node is the first node. ID string
next_id	String	ID of the next node. If there is no next node ID, the node is the tail node. ID string
id	String	This parameter is left empty during creation and is mandatory during update. ID string
qualified_id	String	Authentication ID, which is automatically generated.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
bizmetric_num	Integer	Number of service indicators, which is not transferred by the frontend.
children_num	Integer	Number of sub-processes, excluding sub-processes.
children	Array of BizCatalogVO objects	Lower-level subdirectory, which is read-only.

Status code: 400**Table 7-195** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-196** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-197** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-198** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query process details in process design based on the process ID.

```
GET https://{endpoint}/v2/{project_id}/design/biz/catalogs/904051952785162240
```

Example Responses

Status code: 200

This operation is successful, and the returned data is BizCatalogVO details.

```
{
  "data": {
    "value": {
      "name": "xx",
      "description": "",
      "guid": "4c9c3574-5cc7-46af-8f67-34782d5a6b32",
      "owner": "{\"owners\": [\"abc\"]}",
      "parent_id": "887366192090767360",
      "prev_id": null,
      "next_id": null,
      "id": "904051952785162240",
      "qualified_id": "887366192090767360.904051952785162240",
      "create_by": "abc",
      "update_by": "abc",
      "create_time": "2021-10-30T16:59:42+08:00",
      "update_time": "2021-10-30T16:59:42+08:00",
    }
  }
}
```

```
"bizmetric_num" : null,  
"children_num" : null,  
"children" : null  
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowBizCatalogDetailSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running
```

this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ShowBizCatalogDetailRequest request = new ShowBizCatalogDetailRequest();
request.withId("{id}");
try {
    ShowBizCatalogDetailResponse response = client.showBizCatalogDetail(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowBizCatalogDetailRequest()
        request.id = "{id}"
        response = client.show_biz_catalog_detail(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
```

```
print(e.error_code)
print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowBizCatalogDetailRequest{}
    request.Id = "{id}"
    response, err := client.ShowBizCatalogDetail(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is BizCatalogVO details.
400	BadRequest
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found

7.6 Data Standard Templates

7.6.1 Querying a Data Standard Template

Function

This API is used to query data standard templates in the current workspace.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/standards/templates

Table 7-199 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-200 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].

Parameter	Mandatory	Type	Description
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-201 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-202 Response body parameters

Parameter	Type	Description
data	data object	Data returned by the API

Table 7-203 data

Parameter	Type	Description
value	value object	Result of querying the data standard template

Table 7-204 value

Parameter	Type	Description
allFields	Array of StandElementFieldVO objects	All attributes of the data standard. The set contains a single StandElementFieldVO object.
optional	Array of StandElementFieldVO objects	This parameter is optional. The set contains a single StandElementFieldVO object.
system_default	Array of StandElementFieldVO objects	System default item. The collection contains a single StandElementFieldVO object.
custom	Array of StandElementFieldVO objects	User-defined item. The collection contains a single StandElementFieldVO object.
hasTemplate	Boolean	Whether to use the template

Table 7-205 StandElementFieldVO

Parameter	Type	Description
fd_name	String	Attribute name.
fd_name_en	String	English name of an attribute.
description	String	Attribute description.
descriptionEn	String	Attribute description in English.

Parameter	Type	Description
label	String	Attribute tag.
disabled	Boolean	Disable or not.
id	String	Data standard ID, which is a string
actived	Boolean	Indicates whether to display the default item. The default item is displayed and cannot be modified. The value true indicates that the attribute is displayed when the data standard is used (the attribute can be operated during adding, modification, and query). The value false indicates that the attribute is not displayed when the data standard is used.
required	Boolean	Whether the header input parameter is mandatory. true: mandatory; false: optional.
searchable	Boolean	Indicates whether the content can be searched. The value true indicates that the data can be searched on the data standard list page, and the value false indicates that the data cannot be searched on the data standard list page.
optional_values	String	Allowed value.
field_type	Integer	Field type. The value 0 indicates a system field, and the value 1 indicates a customized field.
displayed_name	String	Frontend display name.
displayed_name_en	String	Frontend display name in English.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.

Parameter	Type	Description
update_by	String	Person who updates the information.

Status code: 400**Table 7-206** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-207** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-208** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-209 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query data standard templates in the current workspace.

```
GET https://{endpoint}/v2/{project_id}/design/standards/templates
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a StandElementFieldVO list.

```
{
  "data": {
    "value": {
      "allFields": [ {
        "fd_name": "nameCh",
        "fd_name_en": null,
        "description": "Standard Name",
        "id": "1020622096960831488",
        "activated": true,
        "required": true,
        "searchable": true,
        "optional_values": null,
        "field_type": null,
        "displayed_name": null,
        "displayed_name_en": null,
        "create_time": "2022-09-17T09:07:50+08:00",
        "update_time": "2024-03-13T16:48:56+08:00",
        "create_by": "test_uesr",
        "update_by": "test_uesr"
      }, {
        "fd_name": "nameEn",
        "fd_name_en": null,
        "description": "Standard Code",
        "id": "1020622096985997312",
        "activated": true,
        "required": true,
        "searchable": true,
        "optional_values": null,
        "field_type": null,
        "displayed_name": null,
        "displayed_name_en": null,
        "create_time": "2022-09-17T09:07:50+08:00",
        "update_time": "2024-03-13T16:48:56+08:00",
        "create_by": "test_uesr",
        "update_by": "test_uesr"
      }, {
        "fd_name": "dataType",
        "fd_name_en": null,
        "description": "Data type",
```

```
"id" : "1020622097006968832",
"activated" : true,
"required" : true,
"searchable" : true,
"optional_values" : null,
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2022-09-17T09:07:50+08:00",
"update_time" : "2024-03-13T16:48:56+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
  "fd_name" : "dataLength",
  "fd_name_en" : null,
  "description" : "Max. Data Length",
  "id" : "1020622097032134656",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "hasAllowValueList",
  "fd_name_en" : null,
  "description" : "Allowed Value Exist",
  "id" : "1020622097048911872",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "allowList",
  "fd_name_en" : null,
  "description" : "Allowed Value",
  "id" : "1020622097065689088",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "referCodeTable",
  "fd_name_en" : null,
  "description" : "Lookup Table",
  "id" : "1020622097086660608",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
```

```
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2022-09-17T09:07:50+08:00",
"update_time" : "2024-03-13T16:48:56+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
  "fd_name" : "codeStandColumn",
  "fd_name_en" : null,
  "description" : "Lookup Table Field",
  "id" : "1020622097103437824",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "dqcRule",
  "fd_name_en" : null,
  "description" : "Quality rule",
  "id" : "1020622097124409344",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "ruleOwner",
  "fd_name_en" : null,
  "description" : "Rule Designer",
  "id" : "1020622097141186560",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "dataMonitorOwner",
  "fd_name_en" : null,
  "description" : "Rule Implementer",
  "id" : "1020622097162158080",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
```

```
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
  "fd_name" : "standardLevel",
  "fd_name_en" : null,
  "description" : "Standard Level",
  "id" : "1020622097178935296",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "description",
  "fd_name_en" : null,
  "description" : "Description",
  "id" : "1020622097195712512",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "englishName",
  "fd_name_en" : null,
  "description" : "Identifier Name",
  "id" : "1185628711836360704",
  "activated" : true,
  "required" : false,
  "searchable" : true,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2023-12-16T17:05:13+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}],
"custom" : [ ],
"optional" : [ {
  "fd_name" : "dataLength",
  "fd_name_en" : null,
  "description" : "Max. Data Length",
  "id" : "1020622097032134656",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
```



```
"fd_name" : "hasAllowValueList",
"fd_name_en" : null,
"description" : "Allowed Value Exist",
"id" : "1020622097048911872",
"activated" : true,
"required" : false,
"searchable" : false,
"optional_values" : null,
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2022-09-17T09:07:50+08:00",
"update_time" : "2024-03-13T16:48:56+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
"fd_name" : "allowList",
"fd_name_en" : null,
"description" : "Allowed Value",
"id" : "1020622097065689088",
"activated" : true,
"required" : false,
"searchable" : false,
"optional_values" : null,
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2022-09-17T09:07:50+08:00",
"update_time" : "2024-03-13T16:48:56+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
"fd_name" : "referCodeTable",
"fd_name_en" : null,
"description" : "Lookup Table",
"id" : "1020622097086660608",
"activated" : true,
"required" : false,
"searchable" : false,
"optional_values" : null,
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2022-09-17T09:07:50+08:00",
"update_time" : "2024-03-13T16:48:56+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
"fd_name" : "codeStandColumn",
"fd_name_en" : null,
"description" : "Lookup Table Field",
"id" : "1020622097103437824",
"activated" : true,
"required" : false,
"searchable" : false,
"optional_values" : null,
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2022-09-17T09:07:50+08:00",
"update_time" : "2024-03-13T16:48:56+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
"fd_name" : "dqcRule",
"fd_name_en" : null,
"description" : "Quality rule",
"id" : "1020622097124409344",
"activated" : true,
```

```
"required" : false,
"searchable" : false,
"optional_values" : null,
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2022-09-17T09:07:50+08:00",
"update_time" : "2024-03-13T16:48:56+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
  "fd_name" : "ruleOwner",
  "fd_name_en" : null,
  "description" : "Rule Designer",
  "id" : "1020622097141186560",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "dataMonitorOwner",
  "fd_name_en" : null,
  "description" : "Rule Implementer",
  "id" : "1020622097162158080",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "standardLevel",
  "fd_name_en" : null,
  "description" : "Standard Level",
  "id" : "1020622097178935296",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "description",
  "fd_name_en" : null,
  "description" : "Description",
  "id" : "1020622097195712512",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
```

```
"displayed_name_en" : null,
"create_time" : "2022-09-17T09:07:50+08:00",
"update_time" : "2024-03-13T16:48:56+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
  "fd_name" : "englishName",
  "fd_name_en" : null,
  "description" : "Identifier Name",
  "id" : "1185628711836360704",
  "activated" : true,
  "required" : false,
  "searchable" : true,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2023-12-16T17:05:13+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}],
"hasTemplate" : true,
"system_default" : [ {
  "fd_name" : "nameCh",
  "fd_name_en" : null,
  "description" : "Standard Name",
  "id" : "1020622096960831488",
  "activated" : true,
  "required" : true,
  "searchable" : true,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "nameEn",
  "fd_name_en" : null,
  "description" : "Standard Code",
  "id" : "1020622096985997312",
  "activated" : true,
  "required" : true,
  "searchable" : true,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "dataType",
  "fd_name_en" : null,
  "description" : "Data type",
  "id" : "1020622097006968832",
  "activated" : true,
  "required" : true,
  "searchable" : true,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2022-09-17T09:07:50+08:00",
  "update_time" : "2024-03-13T16:48:56+08:00",
```

```
"create_by" : "test_uesr",  
  "update_by" : "test_uesr"  
}]  
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowStandardTemplateSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running
```

this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ShowStandardTemplateRequest request = new ShowStandardTemplateRequest();
try {
    ShowStandardTemplateResponse response = client.showStandardTemplate(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowStandardTemplateRequest()
        response = client.show_standard_template(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowStandardTemplateRequest{}
    response, err := client.ShowStandardTemplate(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a StandElementFieldVO list.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.6.2 Creating a Data Standard Template

Function

Creates a customized item of the data standard template in the current workspace.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/standards/templates

Table 7-210 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-211 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-212 Request body parameters

Parameter	Mandatory	Type	Description
fd_name	Yes	String	Attribute name.
fd_name_en	No	String	English name of an attribute.
description	No	String	Attribute description.
descriptionEn	No	String	Attribute description in English.
label	No	String	Attribute tag.
disabled	No	Boolean	Disable or not.
id	No	String	Data standard ID, which is a string
actived	Yes	Boolean	Indicates whether to display the default item. The default item is displayed and cannot be modified. The value true indicates that the attribute is displayed when the data standard is used (the attribute can be operated during adding, modification, and query). The value false indicates that the attribute is not displayed when the data standard is used.

Parameter	Mandatory	Type	Description
required	No	Boolean	Whether the header input parameter is mandatory. true: mandatory; false: optional.
searchable	No	Boolean	Indicates whether the content can be searched. The value true indicates that the data can be searched on the data standard list page, and the value false indicates that the data cannot be searched on the data standard list page.
optional_values	No	String	Allowed value.
field_type	No	Integer	Field type. The value 0 indicates a system field, and the value 1 indicates a customized field.
displayed_name	No	String	Frontend display name.
displayed_name_en	No	String	Frontend display name in English.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Response Parameters

Status code: 200

Table 7-213 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-214 data

Parameter	Type	Description
value	StandElementFieldVO object	value: unified outer data structure of the returned result.

Table 7-215 StandElementFieldVO

Parameter	Type	Description
fd_name	String	Attribute name.
fd_name_en	String	English name of an attribute.
description	String	Attribute description.
descriptionEn	String	Attribute description in English.
label	String	Attribute tag.
disabled	Boolean	Disable or not.
id	String	Data standard ID, which is a string
activated	Boolean	Indicates whether to display the default item. The default item is displayed and cannot be modified. The value true indicates that the attribute is displayed when the data standard is used (the attribute can be operated during adding, modification, and query). The value false indicates that the attribute is not displayed when the data standard is used.
required	Boolean	Whether the header input parameter is mandatory. true: mandatory; false: optional.
searchable	Boolean	Indicates whether the content can be searched. The value true indicates that the data can be searched on the data standard list page, and the value false indicates that the data cannot be searched on the data standard list page.
optional_values	String	Allowed value.
field_type	Integer	Field type. The value 0 indicates a system field, and the value 1 indicates a customized field.
displayed_name	String	Frontend display name.
displayed_name_en	String	Frontend display name in English.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Status code: 400**Table 7-216** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-217** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-218** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-219 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Creates a customized item of the data standard template in the current workspace.

POST https://{endpoint}/v2/{project_id}/design/standards/templates

```
{
  "fd_name": "User-defined item 3",
  "fd_name_en": "CustomField3",
  "description": "User-defined item 3",
  "id": "",
  "activated": true,
  "required": false,
  "searchable": false,
  "optional_values": "",
  "field_type": null,
  "displayed_name": null,
  "displayed_name_en": null,
  "create_time": "2024-04-18T16:37:50+08:00",
  "update_time": "2024-04-26T14:21:18+08:00",
  "create_by": "test_uesr",
  "update_by": "test_uesr"
}
```

Example Responses

Status code: 200

Success

```
{
  "data": {
    "value": {
      "fd_name": "User-defined item 3",
      "fd_name_en": "CustomField3",
      "description": "User-defined item 3",

```

```
"id" : "1233446517415743488",
"activated" : true,
"required" : false,
"searchable" : false,
"optional_values" : "",
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2024-04-26T15:56:06.08+08:00",
"update_time" : "2024-04-26T15:56:06.08+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Creates a customized item of the data standard template in the current workspace.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
```

```
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.time.OffsetDateTime;
import java.time.format.DateTimeFormatter;

public class CreateStandardTemplateSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateStandardTemplateRequest request = new CreateStandardTemplateRequest();
        StandElementFieldVO body = new StandElementFieldVO();
        body.withUpdateBy("test_uesr");
        body.withCreateBy("test_uesr");
        body.withUpdateTime(OffsetDateTime.parse("2024-04-26T14:21:18+08:00",
        DateTimeFormatter.ISO_OFFSET_DATE_TIME));
        body.withCreateTime(OffsetDateTime.parse("2024-04-18T16:37:50+08:00",
        DateTimeFormatter.ISO_OFFSET_DATE_TIME));
        body.withOptionalValues("");
        body.withSearchable(false);
        body.withRequired(false);
        body.withActivated(true);
        body.withId("");
        body.withDescription("User-defined item 3");
        body.withFdNameEn("CustomField3");
        body.withFdName("User-defined item 3");
        request.withBody(body);
        try {
            CreateStandardTemplateResponse response = client.createStandardTemplate(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Creates a customized item of the data standard template in the current workspace.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateStandardTemplateRequest()
        request.body = StandElementFieldVO(
            update_by="test_uesr",
            create_by="test_uesr",
            update_time="2024-04-26T14:21:18+08:00",
            create_time="2024-04-18T16:37:50+08:00",
            optional_values="",
            searchable=False,
            required=False,
            activated=True,
            id="",
            description="User-defined item 3",
            fd_name_en="CustomField3",
            fd_name="User-defined item 3"
        )
        response = client.create_standard_template(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Creates a customized item of the data standard template in the current workspace.

```
package main

import (
    "fmt"
    "time"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/sdktime"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
```

```
variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.CreateStandardTemplateRequest{
    updateByStandElementFieldVo:= "test_uesr"
    createByStandElementFieldVo:= "test_uesr"
    dateTimeUpdateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z", "2024-04-26T14:21:18+08:00",
time.UTC)
    updateTimeStandElementFieldVo:= sdktime.SdkTime(dateTimeUpdateTime)
    dateTimeCreateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z", "2024-04-18T16:37:50+08:00",
time.UTC)
    createTimeStandElementFieldVo:= sdktime.SdkTime(dateTimeCreateTime)
    optionalValuesStandElementFieldVo:= ""
    searchableStandElementFieldVo:= false
    requiredStandElementFieldVo:= false
    idStandElementFieldVo:= ""
    descriptionStandElementFieldVo:= "User-defined item 3"
    fdNameEnStandElementFieldVo:= "CustomField3"
    request.Body = &model.StandElementFieldVo{
        UpdateBy: &updateByStandElementFieldVo,
        CreateBy: &createByStandElementFieldVo,
        UpdateTime: &updateTimeStandElementFieldVo,
        CreateTime: &createTimeStandElementFieldVo,
        OptionalValues: &optionalValuesStandElementFieldVo,
        Searchable: &searchableStandElementFieldVo,
        Required: &requiredStandElementFieldVo,
        Activated: true,
        Id: &idStandElementFieldVo,
        Description: &descriptionStandElementFieldVo,
        FdNameEn: &fdNameEnStandElementFieldVo,
        FdName: "User-defined item 3",
    }
}
response, err := client.CreateStandardTemplate(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.6.3 Modifying a Data Standard Template

Function

Modify the data standard template.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/standards/templates

Table 7-220 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-221 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-222 Request body parameters

Parameter	Mandatory	Type	Description
fd_name	Yes	String	Attribute name.
fd_name_en	No	String	English name of an attribute.
description	No	String	Attribute description.
descriptionEn	No	String	Attribute description in English.
label	No	String	Attribute tag.

Parameter	Mandatory	Type	Description
disabled	No	Boolean	Disable or not.
id	No	String	Data standard ID, which is a string
activated	Yes	Boolean	Indicates whether to display the default item. The default item is displayed and cannot be modified. The value true indicates that the attribute is displayed when the data standard is used (the attribute can be operated during adding, modification, and query). The value false indicates that the attribute is not displayed when the data standard is used.
required	No	Boolean	Whether the header input parameter is mandatory. true: mandatory; false: optional.
searchable	No	Boolean	Indicates whether the content can be searched. The value true indicates that the data can be searched on the data standard list page, and the value false indicates that the data cannot be searched on the data standard list page.
optional_values	No	String	Allowed value.
field_type	No	Integer	Field type. The value 0 indicates a system field, and the value 1 indicates a customized field.
displayed_name	No	String	Frontend display name.
displayed_name_en	No	String	Frontend display name in English.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Response Parameters

Status code: 200

Table 7-223 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-224 data

Parameter	Type	Description
value	StandElementFieldVO object	value: unified outer data structure of the returned result.

Table 7-225 StandElementFieldVO

Parameter	Type	Description
fd_name	String	Attribute name.
fd_name_en	String	English name of an attribute.
description	String	Attribute description.
descriptionEn	String	Attribute description in English.
label	String	Attribute tag.
disabled	Boolean	Disable or not.
id	String	Data standard ID, which is a string
actived	Boolean	Indicates whether to display the default item. The default item is displayed and cannot be modified. The value true indicates that the attribute is displayed when the data standard is used (the attribute can be operated during adding, modification, and query). The value false indicates that the attribute is not displayed when the data standard is used.
required	Boolean	Whether the header input parameter is mandatory. true: mandatory; false: optional.

Parameter	Type	Description
searchable	Boolean	Indicates whether the content can be searched. The value true indicates that the data can be searched on the data standard list page, and the value false indicates that the data cannot be searched on the data standard list page.
optional_values	String	Allowed value.
field_type	Integer	Field type. The value 0 indicates a system field, and the value 1 indicates a customized field.
displayed_name	String	Frontend display name.
displayed_name_en	String	Frontend display name in English.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Status code: 400**Table 7-226** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-227 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-228 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-229 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Modify the data standard template in the current workspace.

```
PUT https://{endpoint}/v2/{project_id}/design/standards/templates
```

```
{
  "fd_name": "User-defined item 3",
  "fd_name_en": "CustomField33",
  "description": "User-defined item 3",
  "id": "1233446517415743488",
  "actived": true,
  "required": false,
```

```
"searchable" : false,  
"optional_values" : "",  
"field_type" : null,  
"displayed_name" : null,  
"displayed_name_en" : null,  
"create_time" : "2024-04-26T15:56:06.08+08:00",  
"update_time" : "2024-04-26T15:56:06.08+08:00",  
"create_by" : "test_uesr",  
"update_by" : "test_uesr"  
}
```

Example Responses

Status code: 200

Success

```
{  
  "data" : {  
    "value" : {  
      "fd_name" : "User-defined item 3",  
      "fd_name_en" : "CustomField33",  
      "description" : "User-defined item 3",  
      "id" : "1233446517415743488",  
      "activated" : true,  
      "required" : false,  
      "searchable" : false,  
      "optional_values" : "",  
      "field_type" : null,  
      "displayed_name" : null,  
      "displayed_name_en" : null,  
      "create_time" : "2024-04-26T07:56:06.08Z",  
      "update_time" : "2024-04-26T07:56:06.08Z",  
      "create_by" : "test_uesr",  
      "update_by" : "0833a573fe80d5401f6dc010a775569a"  
    }  
  }  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Modify the data standard template in the current workspace.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.time.OffsetDateTime;
import java.time.format.DateTimeFormatter;

public class UpdateStandardTemplateSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        UpdateStandardTemplateRequest request = new UpdateStandardTemplateRequest();
        StandElementFieldVO body = new StandElementFieldVO();
        body.withUpdateBy("test_uesr");
        body.withCreateBy("test_uesr");
        body.withUpdateTime(OffsetDateTime.parse("2024-04-26T15:56:06.08+08:00",
            DateTimeFormatter.ISO_OFFSET_DATE_TIME));
        body.withCreateTime(OffsetDateTime.parse("2024-04-26T15:56:06.08+08:00",
            DateTimeFormatter.ISO_OFFSET_DATE_TIME));
        body.withOptionalValues("");
        body.withSearchable(false);
        body.withRequired(false);
        body.withActivated(true);
        body.withId("1233446517415743488");
        body.withDescription("User-defined item 3");
        body.withFdNameEn("CustomField33");
        body.withFdName("User-defined item 3");
        request.withBody(body);
        try {
            UpdateStandardTemplateResponse response = client.updateStandardTemplate(request);
        }
    }
}
```



```
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Modify the data standard template in the current workspace.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateStandardTemplateRequest()
        request.body = StandElementFieldVO(
            update_by="test_uesr",
            create_by="test_uesr",
            update_time="2024-04-26T15:56:06.08+08:00",
            create_time="2024-04-26T15:56:06.08+08:00",
            optional_values="",
            searchable=False,
            required=False,
            actived=True,
            id="1233446517415743488",
            description="User-defined item 3",
            fd_name_en="CustomField33",
            fd_name="User-defined item 3"
        )
        response = client.update_standard_template(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Modify the data standard template in the current workspace.

```
package main

import (
    "fmt"
    "time"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/sdktime"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateStandardTemplateRequest{
        updateByStandElementFieldVo:= "test_uesr"
        createByStandElementFieldVo:= "test_uesr"
        dateTimeUpdateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z",
            "2024-04-26T15:56:06.08+08:00", time.UTC)
        updateTimeStandElementFieldVo:= sdktime.SdkTime(dateTimeUpdateTime)
        dateTimeCreateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z",
            "2024-04-26T15:56:06.08+08:00", time.UTC)
        createTimeStandElementFieldVo:= sdktime.SdkTime(dateTimeCreateTime)
        optionalValuesStandElementFieldVo:= ""
        searchableStandElementFieldVo:= false
        requiredStandElementFieldVo:= false
        idStandElementFieldVo:= "1233446517415743488"
        descriptionStandElementFieldVo:= "User-defined item 3"
        fdNameEnStandElementFieldVo:= "CustomField33"
        request.Body = &model.StandElementFieldVo{
            UpdateBy: &updateByStandElementFieldVo,
            CreateBy: &createByStandElementFieldVo,
            UpdateTime: &updateTimeStandElementFieldVo,
            CreateTime: &createTimeStandElementFieldVo,
            OptionalValues: &optionalValuesStandElementFieldVo,
            Searchable: &searchableStandElementFieldVo,
            Required: &requiredStandElementFieldVo,
            Activated: true,
            Id: &idStandElementFieldVo,
            Description: &descriptionStandElementFieldVo,
            FdNameEn: &fdNameEnStandElementFieldVo,
            FdName: "User-defined item 3",
        }
    }
    response, err := client.UpdateStandardTemplate(request)
    if err == nil {
```

```
    fmt.Printf("%+v\n", response)
  } else {
    fmt.Println(err)
  }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.6.4 Deleting a Data Standard Template

Function

Delete a data standard template.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/standards/templates

Table 7-230 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-231 Query Parameters

Parameter	Mandatory	Type	Description
ids	Yes	String	ID set of data standards to be deleted.

Request Parameters

Table 7-232 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-233 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-234 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400**Table 7-235** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-236** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-237 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-238 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Deletes a data standard template from the current workspace.

```
DELETE https://{endpoint}/v2/{project_id}/design/standards/templates
{
  "ids" : [ "1193132546607693824" ]
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of deleted data records.

```
{
  "data" : {
    "value" : "1"
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Deletes a data standard template from the current workspace.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class DeleteStandardTemplateSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```

```
        .build();
DeleteStandardTemplateRequest request = new DeleteStandardTemplateRequest();
try {
    DeleteStandardTemplateResponse response = client.deleteStandardTemplate(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Deletes a data standard template from the current workspace.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteStandardTemplateRequest()
        response = client.delete_standard_template(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Deletes a data standard template from the current workspace.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
```



```
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteStandardTemplateRequest{}
    response, err := client.DeleteStandardTemplate(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.6.5 Standard Template for Initializing Data

Function

Initialize the data standard template.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/standards/templates/action

Table 7-239 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-240 Query Parameters

Parameter	Mandatory	Type	Description
action-id	Yes	String	If action-id is set to init, this parameter is a fixed parameter for initializing the data standard template.

Request Parameters

Table 7-241 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-242 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-243 data

Parameter	Type	Description
value	Array of StandElementFieIdVO objects	Array of field details in the data standard template.

Table 7-244 StandElementFieldVO

Parameter	Type	Description
fd_name	String	Attribute name.
fd_name_en	String	English name of an attribute.
description	String	Attribute description.
descriptionEn	String	Attribute description in English.
label	String	Attribute tag.
disabled	Boolean	Disable or not.
id	String	Data standard ID, which is a string
activated	Boolean	Indicates whether to display the default item. The default item is displayed and cannot be modified. The value true indicates that the attribute is displayed when the data standard is used (the attribute can be operated during adding, modification, and query). The value false indicates that the attribute is not displayed when the data standard is used.
required	Boolean	Whether the header input parameter is mandatory. true: mandatory; false: optional.
searchable	Boolean	Indicates whether the content can be searched. The value true indicates that the data can be searched on the data standard list page, and the value false indicates that the data cannot be searched on the data standard list page.
optional_values	String	Allowed value.
field_type	Integer	Field type. The value 0 indicates a system field, and the value 1 indicates a customized field.
displayed_name	String	Frontend display name.
displayed_name_en	String	Frontend display name in English.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Status code: 400

Table 7-245 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-246 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-247 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-248 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Initialize the data standard template.

POST https://{endpoint}/v2/{project_id}/design/standards/templates/action?action-id=init

```
{
  "fields": [ {
    "descriptionEn": "Standard Name",
    "fd_name": "nameCh",
    "description": "Standard Name",
    "required": true,
    "searchable": true,
    "activated": true,
    "label": "Standard Name",
    "displayed_name": "Standard Name",
    "displayed_name_en": "Standard name"
  }, {
    "descriptionEn": "Standard Code",
    "fd_name": "nameEn",
    "description": "Standard Code",
    "required": true,
    "searchable": true,
    "activated": true,
    "label": "Standard Code",
    "displayed_name": "Standard Code",
    "displayed_name_en": "Standard code"
  }, {
    "descriptionEn": "Data Type",
    "fd_name": "dataType",
    "description": "Data Type",
    "required": true,
    "searchable": true,
    "activated": true,
    "label": "Data type",
    "displayed_name": "Data Type",
    "displayed_name_en": "Data type"
  }, {
    "descriptionEn": "Standard English Name",
```

```
"fd_name": "englishName",
"description": "Identifier Name",
"required": false,
"searchable": false,
"activated": false,
"label": "Identifier Name",
"disabled": false,
"displayed_name": "Identifier Name",
"displayed_name_en": "Name (EN)"
}, {
  "descriptionEn": "Data Length",
  "fd_name": "dataLength",
  "description": "Max. Data Length",
  "required": false,
  "searchable": false,
  "activated": true,
  "label": "Data Length",
  "disabled": false,
  "displayed_name": "Max. Data Length",
  "displayed_name_en": "Data length"
}, {
  "descriptionEn": "Allowed Value",
  "fd_name": "hasAllowValueList",
  "description": "Allowed Value Exist",
  "required": false,
  "searchable": false,
  "activated": false,
  "label": "Allowed Value Exist",
  "disabled": false,
  "displayed_name": "Allowed Value Exist",
  "displayed_name_en": "Allowed value exist"
}, {
  "descriptionEn": "Allowed Value List",
  "fd_name": "allowList",
  "description": "Allowed Value",
  "required": false,
  "searchable": false,
  "activated": false,
  "label": "Allowed Value",
  "disabled": true,
  "displayed_name": "Allowed Value",
  "displayed_name_en": "Allowed values"
}, {
  "descriptionEn": "Referenced Lookup Table",
  "fd_name": "referCodeTable",
  "description": "Lookup Table",
  "required": false,
  "searchable": false,
  "activated": false,
  "label": "Referenced Lookup Table",
  "disabled": false,
  "displayed_name": "Lookup Table",
  "displayed_name_en": "Lookup table"
}, {
  "descriptionEn": "Lookup Table Field",
  "fd_name": "codeStandColumn",
  "description": "Lookup Table Field",
  "required": false,
  "searchable": false,
  "activated": false,
  "label": "Lookup Table Field",
  "disabled": true,
  "displayed_name": "Lookup Table Field",
  "displayed_name_en": "Lookup table field"
}, {
  "descriptionEn": "Quality Rule",
  "fd_name": "dqcRule",
  "description": "Quality rule",
  "required": false,
```

```
"searchable" : false,
"activated" : false,
"label" : "Quality rule",
"disabled" : false,
"displayed_name" : "Quality rule",
"displayed_name_en" : "Quality rule"
}, {
  "descriptionEn" : "Owner of Business Rules",
  "fd_name" : "ruleOwner",
  "description" : "Rule Designer",
  "required" : false,
  "searchable" : false,
  "activated" : false,
  "label" : "Rule Designer",
  "disabled" : false,
  "displayed_name" : "Rule Designer",
  "displayed_name_en" : "Rule designer"
}, {
  "descriptionEn" : "Owner of Data Monitoring",
  "fd_name" : "dataMonitorOwner",
  "description" : "Rule Implementer",
  "required" : false,
  "searchable" : false,
  "activated" : false,
  "label" : "Rule Implementer",
  "disabled" : false,
  "displayed_name" : "Rule Implementer",
  "displayed_name_en" : "Rule implementer"
}, {
  "descriptionEn" : "Standard Level",
  "fd_name" : "standardLevel",
  "description" : "Level",
  "required" : false,
  "searchable" : false,
  "activated" : false,
  "label" : "Standard Level",
  "disabled" : false,
  "displayed_name" : "Standard Level",
  "displayed_name_en" : "Standard level"
}, {
  "descriptionEn" : "Description",
  "fd_name" : "description",
  "description" : "Description",
  "required" : false,
  "searchable" : false,
  "activated" : true,
  "label" : "Description",
  "disabled" : false,
  "displayed_name" : "Description",
  "displayed_name_en" : "Description"
}
}]]
```

Example Responses

Status code: 200

Success

```
{
  "data" : {
    "value" : [ {
      "fd_name" : "nameCh",
      "fd_name_en" : null,
      "description" : "Standard Name",
      "id" : "1230921379143135232",
      "activated" : true,
      "required" : true,
      "searchable" : true,

```



```
"optional_values" : null,
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2024-04-19T16:42:06+08:00",
"update_time" : "2024-04-19T16:42:06+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
  "fd_name" : "nameEn",
  "fd_name_en" : null,
  "description" : "Standard Code",
  "id" : "1230921379164106752",
  "activated" : true,
  "required" : true,
  "searchable" : true,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "dataType",
  "fd_name_en" : null,
  "description" : "Data Type",
  "id" : "1230921379180883968",
  "activated" : true,
  "required" : true,
  "searchable" : true,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "englishName",
  "fd_name_en" : null,
  "description" : "Identifier Name",
  "id" : "1230921379201855488",
  "activated" : false,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "dataLength",
  "fd_name_en" : null,
  "description" : "Data Length",
  "id" : "1230921379222827008",
  "activated" : true,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
```

```
"update_time" : "2024-04-19T16:42:06+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
  "fd_name" : "hasAllowValueList",
  "fd_name_en" : null,
  "description" : "Allowed Value Exist",
  "id" : "1230921379239604224",
  "actived" : false,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "allowList",
  "fd_name_en" : null,
  "description" : "Allowed Value",
  "id" : "1230921379260575744",
  "actived" : false,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "referCodeTable",
  "fd_name_en" : null,
  "description" : "Lookup Table",
  "id" : "1230921379277352960",
  "actived" : false,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "codeStandColumn",
  "fd_name_en" : null,
  "description" : "Lookup Table Field",
  "id" : "1230921379298324480",
  "actived" : false,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "dqcrule",
```

```
"fd_name_en" : null,
"description" : "Quality rule",
"id" : "1230921379315101696",
"actived" : false,
"required" : false,
"searchable" : false,
"optional_values" : null,
"field_type" : null,
"displayed_name" : null,
"displayed_name_en" : null,
"create_time" : "2024-04-19T16:42:06+08:00",
"update_time" : "2024-04-19T16:42:06+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr"
}, {
  "fd_name" : "ruleOwner",
  "fd_name_en" : null,
  "description" : "Rule Designer",
  "id" : "1230921379340267520",
  "actived" : false,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "dataMonitorOwner",
  "fd_name_en" : null,
  "description" : "Rule Implementer",
  "id" : "1230921379361239040",
  "actived" : false,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "standardLevel",
  "fd_name_en" : null,
  "description" : "Level",
  "id" : "1230921379382210560",
  "actived" : false,
  "required" : false,
  "searchable" : false,
  "optional_values" : null,
  "field_type" : null,
  "displayed_name" : null,
  "displayed_name_en" : null,
  "create_time" : "2024-04-19T16:42:06+08:00",
  "update_time" : "2024-04-19T16:42:06+08:00",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr"
}, {
  "fd_name" : "description",
  "fd_name_en" : null,
  "description" : "Description",
  "id" : "1230921379398987776",
  "actived" : true,
  "required" : false,
```

```
"searchable" : false,  
"optional_values" : null,  
"field_type" : null,  
"displayed_name" : null,  
"displayed_name_en" : null,  
"create_time" : "2024-04-19T16:42:06+08:00",  
"update_time" : "2024-04-19T16:42:06+08:00",  
"create_by" : "test_uesr",  
"update_by" : "test_uesr"  
}]  
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Initialize the data standard template.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;
```

```
import java.util.List;
import java.util.ArrayList;

public class InitializeStandardTemplateSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        InitializeStandardTemplateRequest request = new InitializeStandardTemplateRequest();
        StandElementFieldVOList body = new StandElementFieldVOList();
        List<StandElementFieldVO> listbodyFields = new ArrayList<>();
        listbodyFields.add(
            new StandElementFieldVO()
                .withFdName("nameCh")
                .withDescription("Standard Name")
                .withDescriptionEn("Standard Name")
                .withLabel("Standard Name")
                .withActivated(true)
                .withRequired(true)
                .withSearchable(true)
                .withDisplayedName("Standard Name")
                .withDisplayedNameEn("Standard name")
        );
        listbodyFields.add(
            new StandElementFieldVO()
                .withFdName("nameEn")
                .withDescription("Standard Code")
                .withDescriptionEn("Standard Code")
                .withLabel("Standard Code")
                .withActivated(true)
                .withRequired(true)
                .withSearchable(true)
                .withDisplayedName("Standard Code")
                .withDisplayedNameEn("Standard code")
        );
        listbodyFields.add(
            new StandElementFieldVO()
                .withFdName("dataType")
                .withDescription("Data Type")
                .withDescriptionEn("Data Type")
                .withLabel("Data type")
                .withActivated(true)
                .withRequired(true)
                .withSearchable(true)
                .withDisplayedName("Data Type")
                .withDisplayedNameEn("Data type")
        );
        listbodyFields.add(
            new StandElementFieldVO()
                .withFdName("englishName")
                .withDescription("Identifier Name")
                .withDescriptionEn("Standard English Name")
        );
    }
}
```

```
.withLabel("Identifier Name")
.withDisabled(false)
.withActivated(false)
.withRequired(false)
.withSearchable(false)
.withDisplayedName("Identifier Name")
.withDisplayedNameEn("Name (EN)")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("dataLength")
        .withDescription("Max. Data Length")
        .withDescriptionEn("Data Length")
        .withLabel("Data Length")
        .withDisabled(false)
        .withActivated(true)
        .withRequired(false)
        .withSearchable(false)
        .withDisplayedName("Max. Data Length")
        .withDisplayedNameEn("Data length")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("hasAllowValueList")
        .withDescription("Allowed Value Exist")
        .withDescriptionEn("Allowed Value")
        .withLabel("Allowed Value Exist")
        .withDisabled(false)
        .withActivated(false)
        .withRequired(false)
        .withSearchable(false)
        .withDisplayedName("Allowed Value Exist")
        .withDisplayedNameEn("Allowed value exist")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("allowList")
        .withDescription("Allowed Value")
        .withDescriptionEn("Allowed Value List")
        .withLabel("Allowed Value")
        .withDisabled(true)
        .withActivated(false)
        .withRequired(false)
        .withSearchable(false)
        .withDisplayedName("Allowed Value")
        .withDisplayedNameEn("Allowed values")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("referCodeTable")
        .withDescription("Lookup Table")
        .withDescriptionEn("Referenced Lookup Table")
        .withLabel("Referenced Lookup Table")
        .withDisabled(false)
        .withActivated(false)
        .withRequired(false)
        .withSearchable(false)
        .withDisplayedName("Lookup Table")
        .withDisplayedNameEn("Lookup table")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("codeStandColumn")
        .withDescription("Lookup Table Field")
        .withDescriptionEn("Lookup Table Field")
        .withLabel("Lookup Table Field")
        .withDisabled(true)
        .withActivated(false)
        .withRequired(false)
);
```

```
.withSearchable(false)
.withDisplayName("Lookup Table Field")
.withDisplayNameEn("Lookup table field")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("dqcRule")
        .withDescription("Quality rule")
        .withDescriptionEn("Quality Rule")
        .withLabel("Quality rule")
        .withDisabled(false)
        .withActivated(false)
        .withRequired(false)
        .withSearchable(false)
        .withDisplayName("Quality rule")
        .withDisplayNameEn("Quality rule")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("ruleOwner")
        .withDescription("Rule Designer")
        .withDescriptionEn("Owner of Business Rules")
        .withLabel("Rule Designer")
        .withDisabled(false)
        .withActivated(false)
        .withRequired(false)
        .withSearchable(false)
        .withDisplayName("Rule Designer")
        .withDisplayNameEn("Rule designer")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("dataMonitorOwner")
        .withDescription("Rule Implementer")
        .withDescriptionEn("Owner of Data Monitoring")
        .withLabel("Rule Implementer")
        .withDisabled(false)
        .withActivated(false)
        .withRequired(false)
        .withSearchable(false)
        .withDisplayName("Rule Implementer")
        .withDisplayNameEn("Rule implementer")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("standardLevel")
        .withDescription("Level")
        .withDescriptionEn("Standard Level")
        .withLabel("Standard Level")
        .withDisabled(false)
        .withActivated(false)
        .withRequired(false)
        .withSearchable(false)
        .withDisplayName("Standard Level")
        .withDisplayNameEn("Standard level")
);
listbodyFields.add(
    new StandElementFieldVO()
        .withFdName("description")
        .withDescription("Description")
        .withDescriptionEn("Description")
        .withLabel("Description")
        .withDisabled(false)
        .withActivated(true)
        .withRequired(false)
        .withSearchable(false)
        .withDisplayName("Description")
        .withDisplayNameEn("Description")
);
```

```
body.withFields(listbodyFields);
request.withBody(body);
try {
    InitializeStandardTemplateResponse response = client.initializeStandardTemplate(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Initialize the data standard template.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = InitializeStandardTemplateRequest()
        listFieldsbody = [
            StandElementFieldVO(
                fd_name="nameCh",
                description="Standard Name",
                description_en="Standard Name",
                label="Standard Name",
                activated=True,
                required=True,
                searchable=True,
                displayed_name="Standard Name",
                displayed_name_en="Standard name"
            ),
            StandElementFieldVO(
                fd_name="nameEn",
                description="Standard Code",
                description_en="Standard Code",
                label="Standard Code",
                activated=True,
                required=True,
```



```
        searchable=True,
        displayed_name="Standard Code",
        displayed_name_en="Standard code"
    ),
    StandElementFieldVO(
        fd_name="dataType",
        description="Data Type",
        description_en="Data Type",
        label="Data type",
        actived=True,
        required=True,
        searchable=True,
        displayed_name="Data Type",
        displayed_name_en="Data type"
    ),
    StandElementFieldVO(
        fd_name="englishName",
        description="Identifier Name",
        description_en="Standard English Name",
        label="Identifier Name",
        disabled=False,
        actived=False,
        required=False,
        searchable=False,
        displayed_name="Identifier Name",
        displayed_name_en="Name (EN)"
    ),
    StandElementFieldVO(
        fd_name="maxLength",
        description="Max. Data Length",
        description_en="Data Length",
        label="Data Length",
        disabled=False,
        actived=True,
        required=False,
        searchable=False,
        displayed_name="Max. Data Length",
        displayed_name_en="Data length"
    ),
    StandElementFieldVO(
        fd_name="hasAllowValueList",
        description="Allowed Value Exist",
        description_en="Allowed Value",
        label="Allowed Value Exist",
        disabled=False,
        actived=False,
        required=False,
        searchable=False,
        displayed_name="Allowed Value Exist",
        displayed_name_en="Allowed value exist"
    ),
    StandElementFieldVO(
        fd_name="allowList",
        description="Allowed Value",
        description_en="Allowed Value List",
        label="Allowed Value",
        disabled=True,
        actived=False,
        required=False,
        searchable=False,
        displayed_name="Allowed Value",
        displayed_name_en="Allowed values"
    ),
    StandElementFieldVO(
        fd_name="referCodeTable",
        description="Lookup Table",
        description_en="Referenced Lookup Table",
        label="Referenced Lookup Table",
        disabled=False,
```

```
        activated=False,
        required=False,
        searchable=False,
        displayed_name="Lookup Table",
        displayed_name_en="Lookup table"
    ),
    StandElementFieldVO(
        fd_name="codeStandColumn",
        description="Lookup Table Field",
        description_en="Lookup Table Field",
        label="Lookup Table Field",
        disabled=True,
        activated=False,
        required=False,
        searchable=False,
        displayed_name="Lookup Table Field",
        displayed_name_en="Lookup table field"
    ),
    StandElementFieldVO(
        fd_name="dqcRule",
        description="Quality rule",
        description_en="Quality Rule",
        label="Quality rule",
        disabled=False,
        activated=False,
        required=False,
        searchable=False,
        displayed_name="Quality rule",
        displayed_name_en="Quality rule"
    ),
    StandElementFieldVO(
        fd_name="ruleOwner",
        description="Rule Designer",
        description_en="Owner of Business Rules",
        label="Rule Designer",
        disabled=False,
        activated=False,
        required=False,
        searchable=False,
        displayed_name="Rule Designer",
        displayed_name_en="Rule designer"
    ),
    StandElementFieldVO(
        fd_name="dataMonitorOwner",
        description="Rule Implementer",
        description_en="Owner of Data Monitoring",
        label="Rule Implementer",
        disabled=False,
        activated=False,
        required=False,
        searchable=False,
        displayed_name="Rule Implementer",
        displayed_name_en="Rule implementer"
    ),
    StandElementFieldVO(
        fd_name="standardLevel",
        description="Level",
        description_en="Standard Level",
        label="Standard Level",
        disabled=False,
        activated=False,
        required=False,
        searchable=False,
        displayed_name="Standard Level",
        displayed_name_en="Standard level"
    ),
    StandElementFieldVO(
        fd_name="description",
        description="Description",
```

```
        description_en="Description",
        label="Description",
        disabled=False,
        activated=True,
        required=False,
        searchable=False,
        displayed_name="Description",
        displayed_name_en="Description"
    )
]
request.body = StandElementFieldVList(
    fields=listFieldsbody
)
response = client.initialize_standard_template(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Initialize the data standard template.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.InitializeStandardTemplateRequest{
        descriptionFields:= "Standard Name"
        descriptionEnFields:= "Standard Name"
        labelFields:= "Standard Name"
        requiredFields:= true
        searchableFields:= true
        displayNameFields:= "Standard Name"
        displayNameEnFields:= "Standard name"
        descriptionFields1:= "Standard Code"
        descriptionEnFields1:= "Standard Code"
        labelFields1:= "Standard Code"
        requiredFields1:= true
    }
```

```
searchableFields1:= true
displayedNameFields1:= "Standard Code"
displayedNameEnFields1:= "Standard code"
descriptionFields2:= "Data Type"
descriptionEnFields2:= "Data Type"
labelFields2:= "Data type"
requiredFields2:= true
searchableFields2:= true
displayedNameFields2:= "Data Type"
displayedNameEnFields2:= "Data type"
descriptionFields3:= "Identifier Name"
descriptionEnFields3:= "Standard English Name"
labelFields3:= "Identifier Name"
disabledFields:= false
requiredFields3:= false
searchableFields3:= false
displayedNameFields3:= "Identifier Name"
displayedNameEnFields3:= "Name (EN)"
descriptionFields4:= "Max. Data Length"
descriptionEnFields4:= "Data Length"
labelFields4:= "Data Length"
disabledFields1:= false
requiredFields4:= false
searchableFields4:= false
displayedNameFields4:= "Max. Data Length"
displayedNameEnFields4:= "Data length"
descriptionFields5:= "Allowed Value Exist"
descriptionEnFields5:= "Allowed Value"
labelFields5:= "Allowed Value Exist"
disabledFields2:= false
requiredFields5:= false
searchableFields5:= false
displayedNameFields5:= "Allowed Value Exist"
displayedNameEnFields5:= "Allowed value exist"
descriptionFields6:= "Allowed Value"
descriptionEnFields6:= "Allowed Value List"
labelFields6:= "Allowed Value"
disabledFields3:= true
requiredFields6:= false
searchableFields6:= false
displayedNameFields6:= "Allowed Value"
displayedNameEnFields6:= "Allowed values"
descriptionFields7:= "Lookup Table"
descriptionEnFields7:= "Referenced Lookup Table"
labelFields7:= "Referenced Lookup Table"
disabledFields4:= false
requiredFields7:= false
searchableFields7:= false
displayedNameFields7:= "Lookup Table"
displayedNameEnFields7:= "Lookup table"
descriptionFields8:= "Lookup Table Field"
descriptionEnFields8:= "Lookup Table Field"
labelFields8:= "Lookup Table Field"
disabledFields5:= true
requiredFields8:= false
searchableFields8:= false
displayedNameFields8:= "Lookup Table Field"
displayedNameEnFields8:= "Lookup table field"
descriptionFields9:= "Quality rule"
descriptionEnFields9:= "Quality Rule"
labelFields9:= "Quality rule"
disabledFields6:= false
requiredFields9:= false
searchableFields9:= false
displayedNameFields9:= "Quality rule"
displayedNameEnFields9:= "Quality rule"
descriptionFields10:= "Rule Designer"
descriptionEnFields10:= "Owner of Business Rules"
labelFields10:= "Rule Designer"
```

```
disabledFields7:= false
requiredFields10:= false
searchableFields10:= false
displayNameFields10:= "Rule Designer"
displayNameEnFields10:= "Rule designer"
descriptionFields11:= "Rule Implementer"
descriptionEnFields11:= "Owner of Data Monitoring"
labelFields11:= "Rule Implementer"
disabledFields8:= false
requiredFields11:= false
searchableFields11:= false
displayNameFields11:= "Rule Implementer"
displayNameEnFields11:= "Rule implementer"
descriptionFields12:= "Level"
descriptionEnFields12:= "Standard Level"
labelFields12:= "Standard Level"
disabledFields9:= false
requiredFields12:= false
searchableFields12:= false
displayNameFields12:= "Standard Level"
displayNameEnFields12:= "Standard level"
descriptionFields13:= "Description"
descriptionEnFields13:= "Description"
labelFields13:= "Description"
disabledFields10:= false
requiredFields13:= false
searchableFields13:= false
displayNameFields13:= "Description"
displayNameEnFields13:= "Description"
var listFieldsbody = []model.StandElementFieldVo{
    {
        FdName: "nameCh",
        Description: &descriptionFields,
        DescriptionEn: &descriptionEnFields,
        Label: &labelFields,
        Activated: true,
        Required: &requiredFields,
        Searchable: &searchableFields,
        DisplayName: &displayNameFields,
        DisplayNameEn: &displayNameEnFields,
    },
    {
        FdName: "nameEn",
        Description: &descriptionFields1,
        DescriptionEn: &descriptionEnFields1,
        Label: &labelFields1,
        Activated: true,
        Required: &requiredFields1,
        Searchable: &searchableFields1,
        DisplayName: &displayNameFields1,
        DisplayNameEn: &displayNameEnFields1,
    },
    {
        FdName: "dataType",
        Description: &descriptionFields2,
        DescriptionEn: &descriptionEnFields2,
        Label: &labelFields2,
        Activated: true,
        Required: &requiredFields2,
        Searchable: &searchableFields2,
        DisplayName: &displayNameFields2,
        DisplayNameEn: &displayNameEnFields2,
    },
    {
        FdName: "englishName",
        Description: &descriptionFields3,
        DescriptionEn: &descriptionEnFields3,
        Label: &labelFields3,
        Disabled: &disabledFields,
```

```
    Activated: false,
    Required: &requiredFields3,
    Searchable: &searchableFields3,
    DisplayName: &displayedNameFields3,
    DisplayNameEn: &displayedNameEnFields3,
  },
  {
    FdName: "dataLength",
    Description: &descriptionFields4,
    DescriptionEn: &descriptionEnFields4,
    Label: &labelFields4,
    Disabled: &disabledFields1,
    Activated: true,
    Required: &requiredFields4,
    Searchable: &searchableFields4,
    DisplayName: &displayedNameFields4,
    DisplayNameEn: &displayedNameEnFields4,
  },
  {
    FdName: "hasAllowValueList",
    Description: &descriptionFields5,
    DescriptionEn: &descriptionEnFields5,
    Label: &labelFields5,
    Disabled: &disabledFields2,
    Activated: false,
    Required: &requiredFields5,
    Searchable: &searchableFields5,
    DisplayName: &displayedNameFields5,
    DisplayNameEn: &displayedNameEnFields5,
  },
  {
    FdName: "allowList",
    Description: &descriptionFields6,
    DescriptionEn: &descriptionEnFields6,
    Label: &labelFields6,
    Disabled: &disabledFields3,
    Activated: false,
    Required: &requiredFields6,
    Searchable: &searchableFields6,
    DisplayName: &displayedNameFields6,
    DisplayNameEn: &displayedNameEnFields6,
  },
  {
    FdName: "referCodeTable",
    Description: &descriptionFields7,
    DescriptionEn: &descriptionEnFields7,
    Label: &labelFields7,
    Disabled: &disabledFields4,
    Activated: false,
    Required: &requiredFields7,
    Searchable: &searchableFields7,
    DisplayName: &displayedNameFields7,
    DisplayNameEn: &displayedNameEnFields7,
  },
  {
    FdName: "codeStandColumn",
    Description: &descriptionFields8,
    DescriptionEn: &descriptionEnFields8,
    Label: &labelFields8,
    Disabled: &disabledFields5,
    Activated: false,
    Required: &requiredFields8,
    Searchable: &searchableFields8,
    DisplayName: &displayedNameFields8,
    DisplayNameEn: &displayedNameEnFields8,
  },
  {
    FdName: "dqcRule",
    Description: &descriptionFields9,
```

```
        DescriptionEn: &descriptionEnFields9,
        Label: &labelFields9,
        Disabled: &disabledFields6,
        Activated: false,
        Required: &requiredFields9,
        Searchable: &searchableFields9,
        DisplayName: &displayedNameFields9,
        DisplayNameEn: &displayedNameEnFields9,
    },
    {
        FdName: "ruleOwner",
        Description: &descriptionFields10,
        DescriptionEn: &descriptionEnFields10,
        Label: &labelFields10,
        Disabled: &disabledFields7,
        Activated: false,
        Required: &requiredFields10,
        Searchable: &searchableFields10,
        DisplayName: &displayedNameFields10,
        DisplayNameEn: &displayedNameEnFields10,
    },
    {
        FdName: "dataMonitorOwner",
        Description: &descriptionFields11,
        DescriptionEn: &descriptionEnFields11,
        Label: &labelFields11,
        Disabled: &disabledFields8,
        Activated: false,
        Required: &requiredFields11,
        Searchable: &searchableFields11,
        DisplayName: &displayedNameFields11,
        DisplayNameEn: &displayedNameEnFields11,
    },
    {
        FdName: "standardLevel",
        Description: &descriptionFields12,
        DescriptionEn: &descriptionEnFields12,
        Label: &labelFields12,
        Disabled: &disabledFields9,
        Activated: false,
        Required: &requiredFields12,
        Searchable: &searchableFields12,
        DisplayName: &displayedNameFields12,
        DisplayNameEn: &displayedNameEnFields12,
    },
    {
        FdName: "description",
        Description: &descriptionFields13,
        DescriptionEn: &descriptionEnFields13,
        Label: &labelFields13,
        Disabled: &disabledFields10,
        Activated: true,
        Required: &requiredFields13,
        Searchable: &searchableFields13,
        DisplayName: &displayedNameFields13,
        DisplayNameEn: &displayedNameEnFields13,
    },
}
}
request.Body = &model.StandElementFieldVoList{
    Fields: &listFieldsbody,
}
response, err := client.InitializeStandardTemplate(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.7 Approval Management

7.7.1 Obtaining an Application

Function

Obtain the application.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/approvals

Table 7-249 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-250 Query Parameters

Parameter	Mandatory	Type	Description
biz_id	No	String	Business definition ID, which is a string
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
approval_status	No	String	Application status. Options: <ul style="list-style-type: none"> • DEVELOPING: to be approved • FINISHED: approved
approval_status_detail	No	String	Application status. Options: <ul style="list-style-type: none"> • DEVELOPING: to be approved • APPROVED: approved • REJECT: rejected
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline

Parameter	Mandatory	Type	Description
biz_type	No	String	Query by service type. The options are ATOMIC_INDEX (atomic indicator), DERIVATIVE_INDEX (derivative indicator), DIMENSION (dimension), and TIME_CONDITION (time filter). DIMENSION_LOGIC_TABLE (dimension table), FACT_LOGIC_TABLE (fact table), AGGREGATION_LOGIC_TABLE (summary table), TABLE_MODEL (relational modeling table), CODE_TABLE (code table), STANDARD_ELEMENT (data standard), BIZ_METRIC (business metric), COMPOUND_METRIC (compound metric), SUBJECT (subject), ATOMIC_METRIC (atomic metric (new)), DERIVED_METRIC (Derivative (new)), COMPOSITE_METRIC (Compound (new))).
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-251 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-252 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-253 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-254 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of ApprovalVO objects	Number of queried application object (ApprovalVO) groups.

Table 7-255 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string

Parameter	Type	Description
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Status code: 400

Table 7-256 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-257 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-258 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message

Parameter	Type	Description
data	Object	Returned data information.

Status code: 404

Table 7-259 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Query information about applications in the Approving state by page.

```
GET https://{endpoint}/v2/{project_id}/design/approvals?
offset=1&limit=10&approval_status=DEVELOPING&is_approval_time=false
```

Example Responses

Status code: 200

This operation is successful. The returned data is the ApprovalVO array and the total number of records.

```
{
  "data" : {
    "value" : {
      "total" : 1,
      "records" : [ {
        "id" : "1230929439261609984",
        "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
        "name_ch" : "test_0408",
        "name_en" : "test_0408",
        "biz_id" : "1226923406239399936",
        "biz_type" : "TABLE_MODEL",
        "biz_info" : "{}",
        "biz_info_obj" : {
          "id" : "1226923406239399936",
          "model_id" : "1183882892003127296",
          "parent_table_id" : null,
          "parent_table_name" : null,
          "parent_table_code" : null,
          "related_logic_table_id" : null,
          "related_logic_table_name" : null,
          "related_logic_table_model_id" : null,
          "related_logic_table_model_name" : null,
          "model" : null,
          "data_format" : "Parquet",
          "obs_bucket" : null,
          "obs_location" : null,

```

```
"configs" : "{}",
"table_type" : "DWS_ROW",
"owner" : "",
"tb_name" : "test_0408",
"dw_id" : "d2d09df46d5745ceaa0702c9245852fa",
"db_name" : null,
"queue_name" : null,
"schema" : null,
"extend_info" : "{\"compression\": \"NO\", \"dirtyOutDatabase\": \"\", \"dirtyOutPrefix\": \"\", \"dirtyOutSuffix\": \"\", \"dirtyOutSwitch\": \"false\", \"distribute\": \"HASH\"}",
"tb_guid" : null,
"tb_id" : null,
"logic_tb_name" : "test_0408",
"logic_tb_guid" : "",
"description" : "None",
"status" : "DRAFT",
"logic_tb_id" : null,
"biz_catalog_id" : "1193142949320474624",
"catalog_path" : null,
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-04-08T15:55:35+08:00",
"update_time" : "2024-04-17T16:20:47+08:00",
"tags" : [ ],
"approval_info" : null,
"new_biz" : null,
"attributes" : [ {
  "id" : "1226923406327480320",
  "name_en" : "aa",
  "name_ch" : "aa",
  "description" : "",
  "obs_location" : null,
  "create_by" : null,
  "update_by" : null,
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
  "not_null" : false,
  "ordinal" : 1,
  "table_model_id" : null,
  "create_time" : "2024-04-08T15:55:35+08:00",
  "update_time" : "2024-04-17T16:20:47+08:00",
  "tags" : [ ],
  "secrecy_levels" : [ ],
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : ""
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : ""
  }
  ],
  "code" : "",
  "related_logic_attr_id" : null,
  "related_logic_attr_name" : null,
  "related_logic_attr_name_en" : null
}, {
  "id" : "1226923406327480321",
```

```
"name_en" : "bb",
"name_ch" : "bb",
"description" : "",
"obs_location" : null,
"create_by" : null,
"update_by" : null,
"data_type" : "BIGINT",
"domain_type" : "NUMBER",
"data_type_extend" : "",
"is_primary_key" : false,
"is_partition_key" : false,
"is_foreign_key" : false,
"extend_field" : false,
"not_null" : false,
"ordinal" : 2,
"table_model_id" : null,
"create_time" : "2024-04-08T15:55:35+08:00",
"update_time" : "2024-04-17T16:20:47+08:00",
"tags" : [],
"secrecy_levels" : [],
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "aa",
  "fd_name_en" : "aa",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : ""
} ],
"code" : "",
"related_logic_attr_id" : null,
"related_logic_attr_name" : null,
"related_logic_attr_name_en" : null
} ],
"mappings" : null,
"relations" : [],
"dw_type" : "DWS",
"dw_name" : null,
"l1" : null,
"l2" : null,
"l3" : null,
"l1_id" : null,
"l2_id" : null,
"l3_id" : "1193142949320474624",
"partition_conf" : null,
"dlf_task_id" : null,
"use_recently_partition" : false,
"reversed" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"quality_owner" : null,
"quality_id" : null,
"distribute" : "HASH",
"distribute_column" : null,
"compression" : "NO",
"pre_combine_field" : null,
"is_partition" : false,
"physical_table" : "CREATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "CREATE_SUCCESS",
```

```
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"summary_status" : "SUMMARY_FAILED",
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE",
"alias" : null,
"self_defined_fields" : [ {
  "fd_name_ch" : "User-defined item 1",
  "fd_name_en" : "selfDefine1",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "User-defined item 2",
  "fd_name_en" : "selfDefine2",
  "not_null" : true,
  "fd_value" : "aaa"
} ],
"code" : null,
"has_related_physical_table" : false,
"has_related_logic_table" : false
},
"biz_version" : 0,
"biz_status" : "PUBLISH_DEVELOPING",
"approval_status" : "DEVELOPING",
"approval_type" : "PUBLISH",
"submit_time" : "2024-04-19T17:14:08+08:00",
"create_by" : "test_uesr",
"l1" : "test_import",
"l2" : null,
"l3" : null,
"approval_time" : "2024-04-19T17:14:08+08:00",
"approver" : "test_uesr",
"email" : null,
"msg" : null,
"directory_path" : null
} ]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchApprovalsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchApprovalsRequest request = new SearchApprovalsRequest();
        try {
            SearchApprovalsResponse response = client.searchApprovals(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchApprovalsRequest()
        response = client.search_approvals(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
```

```
Build()  
  
request := &model.SearchApprovalsRequest{}  
response, err := client.SearchApprovals(request)  
if err == nil {  
    fmt.Printf("%v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful. The returned data is the ApprovalVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.7.2 Withdrawing an Application

Function

Withdraw the application.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/approvals

Table 7-260 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-261 Query Parameters

Parameter	Mandatory	Type	Description
ids	Yes	String	Application ID array.

Request Parameters

Table 7-262 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-263 Response body parameters

Parameter	Type	Description
data	data object	Number of applications that are successfully withdrawn.

Table 7-264 data

Parameter	Type	Description
value	String	Number of objects whose applications are withdrawn.

Status code: 400**Table 7-265** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-266** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-267 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-268** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to withdraw an application based on the application ID.

```
PUT https://{endpoint}/v2/{project_id}/design/approvals?ids=1230929439261609984
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of withdrawn approval records.

```
{  
  "data" : {  
    "value" : 1  
  }  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code": "DS.60xx",
  "error_msg": "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class RollbackApprovalSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        RollbackApprovalRequest request = new RollbackApprovalRequest();
        try {
            RollbackApprovalResponse response = client.rollbackApproval(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        }
    }
}
```

```
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = RollbackApprovalRequest()
        response = client.rollback_approval(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
```

```
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.RollbackApprovalRequest{}
response, err := client.RollbackApproval(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of withdrawn approval records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.7.3 Application Processing

Function

Reject/Approve one or more action-id=reject/resolve.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/approvals/action

Table 7-269 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-270 Query Parameters

Parameter	Mandatory	Type	Description
action-id	Yes	String	Application processing result type. Options: <ul style="list-style-type: none">• reject: rejected• resolve: approved

Request Parameters

Table 7-271 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-272 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	Application ID list, which is a string
msg	Yes	String	Approval order information, which is the approval opinion entered by the approver.

Response Parameters

Status code: 200

Table 7-273 Response body parameters

Parameter	Type	Description
data	data object	Number of applications that are successfully withdrawn.

Table 7-274 data

Parameter	Type	Description
value	BatchOperationVO object	Result of the approval operation.

Table 7-275 BatchOperationVO

Parameter	Type	Description
id	String	Batch approval ID, which is a string

Parameter	Type	Description
tenant_id	String	Project ID.
group_id	String	Group ID, which is a string
biz_name	String	Service name.
biz_id	String	Business ID, which is a string
operation_status	String	Operation result type enumeration. RUNNING(Running), SUCCESS(Operation succeeded), and FAILED(Operation failed). Options: <ul style="list-style-type: none">• RUNNING: The task is running.• SUCCESS: The operation is successful.• FAILED: The operation fails.
operation_type	String	Indicates the type.
biz_info	String	Service details.
create_by	String	Creator.
remark	String	Indicates the remark information.
total	Integer	Total number.
success	Integer	Number of successful operations.
failed	Integer	Indicates the number of failed operations.
rate	String	Indicates the current progress.
logs	String	Logs.
groups	Array of BatchOperationVO objects	Group information.

Status code: 400

Table 7-276 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401**Table 7-277** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-278** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-279** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Approve the physical table release.

```
PUT https://{endpoint}/v2/{project_id}/design/approvals/action?action-id=resolve&from=standard
{
  "ids" : [ "1214980984198561792" ],
  "msg" : "Agree!"
}
```

Example Responses

Status code: 200

Success: The returned data is the execution result.

```
{
  "data" : {
    "value" : {
      "id" : null,
      "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "group_id" : "1230932891752615936",
      "biz_name" : null,
      "biz_id" : null,
      "operation_status" : "SUCCESS",
      "operation_type" : "APPROVAL",
      "biz_info" : null,
      "create_by" : "test_uesr",
      "remark" : null,
      "total" : 1,
      "success" : 1,
      "failed" : 0,
      "rate" : "1.00",
      "logs" : null,
      "groups" : [ {
        "id" : "1230932895607181312",
        "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
        "group_id" : "1230932891752615936",
        "biz_name" : "test_czh_0305_003",
        "biz_id" : "1214580364266340352",
        "operation_status" : "SUCCESS",
        "operation_type" : "APPROVAL",
        "biz_info" : "{}",
        "create_by" : "test_uesr",
        "remark" : "PASSED",
        "total" : 0,
        "success" : 0,
        "failed" : 0,
        "rate" : null,
        "logs" : null,
        "groups" : null
      } ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Approve the physical table release.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class ConfirmApprovalsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```

```
        .build();
        ConfirmApprovalsRequest request = new ConfirmApprovalsRequest();
        ApprovalInfoParam body = new ApprovalInfoParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1214980984198561792");
        body.withMsg("Agree!");
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
            ConfirmApprovalsResponse response = client.confirmApprovals(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Approve the physical table release.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ConfirmApprovalsRequest()
        listidsbody = [
            "1214980984198561792"
        ]
        request.body = ApprovalInfoParam(
            msg="Agree!",
            ids=listidsbody
        )
        response = client.confirm_approvals(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
```

```
print(e.error_code)
print(e.error_msg)
```

Go

Approve the physical table release.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ConfirmApprovalsRequest{}
    var listIdsbody = []string{
        "1214980984198561792",
    }
    request.Body = &model.ApprovalInfoParam{
        Msg: "Agree!",
        Ids: listIdsbody,
    }
    response, err := client.ConfirmApprovals(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success: The returned data is the execution result.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.7.4 Batch Publish

Function

Batch Release

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/approvals/batch-publish

Table 7-280 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-281 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-282 Request body parameters

Parameter	Mandatory	Type	Description
biz_infos	Yes	Array of BizInfoVO objects	Service information list.
approver_user_id	Yes	String	Approver ID.
approver_user_name	Yes	String	Approver name.

Parameter	Mandatory	Type	Description
email	No	String	Email address of the approver. This parameter is set only when the approver is created.
fast_approval	No	Boolean	Quick approval, which is an informal scenario and is used for quick experience. This function is provided only when the current user has the approval permission.
schedule_time	No	String	Job scheduling time. For example, 30_18, indicating 18:30.
env_type	No	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> • INVALID_TYPE: invalid environment • DEV_TYPE: development environment • PROD_TYPE: production environment • DEV_PROD_TYPE: development and production environment

Table 7-283 BizInfoVO

Parameter	Mandatory	Type	Description
biz_id	Yes	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	Yes	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction

Parameter	Mandatory	Type	Description
env_type	No	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment

Response Parameters

Status code: 200

Table 7-284 Response body parameters

Parameter	Type	Description
data	data object	Number of successful batch release results.

Table 7-285 data

Parameter	Type	Description
value	BatchOperationVO object	Batch release result.

Table 7-286 BatchOperationVO

Parameter	Type	Description
id	String	Batch approval ID, which is a string
tenant_id	String	Project ID.
group_id	String	Group ID, which is a string
biz_name	String	Service name.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
operation_status	String	Operation result type enumeration. RUNNING(Running), SUCCESS(Operation succeeded), and FAILED(Operation failed). Options: <ul style="list-style-type: none"> • RUNNING: The task is running. • SUCCESS: The operation is successful. • FAILED: The operation fails.
operation_type	String	Indicates the type.
biz_info	String	Service details.
create_by	String	Creator.
remark	String	Indicates the remark information.
total	Integer	Total number.
success	Integer	Number of successful operations.
failed	Integer	Indicates the number of failed operations.
rate	String	Indicates the current progress.
logs	String	Logs.
groups	Array of BatchOperationVO objects	Group information.

Status code: 400

Table 7-287 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-288 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-289 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-290 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API releases physical models in batches based on physical model IDs.

POST https://{endpoint}/v2/{project_id}/design/approvals/batch-publish?from=standard

```
{
  "biz_infos" : [ {
    "biz_id" : "1222853173564289024",
    "biz_type" : "TABLE_MODEL"
  }, {
    "biz_id" : "1229920251379118081",
    "biz_type" : "TABLE_MODEL"
  }
]
```

```
  } ],  
  "approver_user_id" : "0833a573fe80d5401f6dc010a775569a",  
  "approver_user_name" : "test_uesr",  
  "email" : null,  
  "fast_approval" : true,  
  "schedule_time" : "00_00"  
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the BatchOperationVO object. The batch object is in the BatchOperationVO.group attribute.

```
{  
  "data" : {  
    "value" : {  
      "id" : null,  
      "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",  
      "group_id" : "1230938450061053952",  
      "biz_name" : null,  
      "biz_id" : null,  
      "operation_status" : "SUCCESS",  
      "operation_type" : "PUBLISH",  
      "biz_info" : null,  
      "create_by" : "test_uesr",  
      "remark" : null,  
      "total" : 2,  
      "success" : 2,  
      "failed" : 0,  
      "rate" : "1.00",  
      "logs" : null,  
      "groups" : [ {  
        "id" : "1230938456012771328",  
        "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",  
        "group_id" : "1230938450061053952",  
        "biz_name" : "test_czh_0328",  
        "biz_id" : "1222853173564289024",  
        "operation_status" : "SUCCESS",  
        "operation_type" : "PUBLISH",  
        "biz_info" : "{}",  
        "create_by" : "test_uesr",  
        "remark" : "PASSED",  
        "total" : 0,  
        "success" : 0,  
        "failed" : 0,  
        "rate" : null,  
        "logs" : null,  
        "groups" : null  
      }, {  
        "id" : "1230938456012771329",  
        "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",  
        "group_id" : "1230938450061053952",  
        "biz_name" : "test_czh_0416",  
        "biz_id" : "1229920251379118081",  
        "operation_status" : "SUCCESS",  
        "operation_type" : "PUBLISH",  
        "biz_info" : "{}",  
        "create_by" : "test_uesr",  
        "remark" : "PASSED",  
        "total" : 0,  
        "success" : 0,  
        "failed" : 0,  
        "rate" : null,  
        "logs" : null,  
        "groups" : null  
      } ]  
    }  
  }  
}
```

```
}  
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API releases physical models in batches based on physical model IDs.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class BatchPublishSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
```



```
environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();

BatchPublishRequest request = new BatchPublishRequest();
ApprovalBatchParam body = new ApprovalBatchParam();
List<BizInfoVO> listbodyBizInfos = new ArrayList<>();
listbodyBizInfos.add(
    new BizInfoVO()
        .withBizId("1222853173564289024")
        .withBizType(BizInfoVO.BizTypeEnum.fromValue("TABLE_MODEL"))
);
listbodyBizInfos.add(
    new BizInfoVO()
        .withBizId("1229920251379118081")
        .withBizType(BizInfoVO.BizTypeEnum.fromValue("TABLE_MODEL"))
);
body.withScheduleTime("00_00");
body.withFastApproval(true);
body.withApproverUserName("test_uesr");
body.withApproverUserId("0833a573fe80d5401f6dc010a775569a");
body.withBizInfos(listbodyBizInfos);
request.withBody(body);
try {
    BatchPublishResponse response = client.batchPublish(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

This API releases physical models in batches based on physical model IDs.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
```

```
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = BatchPublishRequest()
    listBizInfosbody = [
        BizInfoVO(
            biz_id="1222853173564289024",
            biz_type="TABLE_MODEL"
        ),
        BizInfoVO(
            biz_id="1229920251379118081",
            biz_type="TABLE_MODEL"
        )
    ]
    request.body = ApprovalBatchParam(
        schedule_time="00_00",
        fast_approval=True,
        approver_user_name="test_uesr",
        approver_user_id="0833a573fe80d5401f6dc010a775569a",
        biz_infos=listBizInfosbody
    )
    response = client.batch_publish(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

This API releases physical models in batches based on physical model IDs.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()
```

```

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.BatchPublishRequest{}
bizTypeBizInfos:= model.GetBizInfoVoBizTypeEnum().TABLE_MODEL
bizTypeBizInfos1:= model.GetBizInfoVoBizTypeEnum().TABLE_MODEL
var listBizInfosbody = []model.BizInfoVo{
    {
        BizId: "1222853173564289024",
        BizType: &bizTypeBizInfos,
    },
    {
        BizId: "1229920251379118081",
        BizType: &bizTypeBizInfos1,
    },
}
scheduleTimeApprovalBatchParam:= "00_00"
fastApprovalApprovalBatchParam:= true
request.Body = &model.ApprovalBatchParam{
    ScheduleTime: &scheduleTimeApprovalBatchParam,
    FastApproval: &fastApprovalApprovalBatchParam,
    ApproverUserName: "test_uesr",
    ApproverUserId: "0833a573fe80d5401f6dc010a775569a",
    BizInfos: listBizInfosbody,
}
response, err := client.BatchPublish(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}

```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the BatchOperationVO object. The batch object is in the BatchOperationVO.group attribute.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.7.5 Taking Services Offline in Batches

Function

Bring offline in batches.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/approvals/batch-offline

Table 7-291 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-292 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-293 Request body parameters

Parameter	Mandatory	Type	Description
biz_infos	Yes	Array of BizInfoVO objects	Service information list.
approver_user_id	Yes	String	Approver ID.
approver_user_name	Yes	String	Approver name.
email	No	String	Email address of the approver. This parameter is set only when the approver is created.
fast_approval	No	Boolean	Quick approval, which is an informal scenario and is used for quick experience. This function is provided only when the current user has the approval permission.
schedule_time	No	String	Job scheduling time. For example, 30_18, indicating 18:30.

Parameter	Mandatory	Type	Description
env_type	No	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment

Table 7-294 BizInfoVO

Parameter	Mandatory	Type	Description
biz_id	Yes	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	Yes	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction

Parameter	Mandatory	Type	Description
env_type	No	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment

Response Parameters

Status code: 200

Table 7-295 Response body parameters

Parameter	Type	Description
data	data object	Number of successful batch offline results.

Table 7-296 data

Parameter	Type	Description
value	BatchOperationVO object	Returned result of the batch offline operation.

Table 7-297 BatchOperationVO

Parameter	Type	Description
id	String	Batch approval ID, which is a string
tenant_id	String	Project ID.
group_id	String	Group ID, which is a string
biz_name	String	Service name.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
operation_status	String	Operation result type enumeration. RUNNING(Running), SUCCESS(Operation succeeded), and FAILED(Operation failed). Options: <ul style="list-style-type: none"> • RUNNING: The task is running. • SUCCESS: The operation is successful. • FAILED: The operation fails.
operation_type	String	Indicates the type.
biz_info	String	Service details.
create_by	String	Creator.
remark	String	Indicates the remark information.
total	Integer	Total number.
success	Integer	Number of successful operations.
failed	Integer	Indicates the number of failed operations.
rate	String	Indicates the current progress.
logs	String	Logs.
groups	Array of BatchOperationVO objects	Group information.

Status code: 400

Table 7-298 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-299 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-300 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-301 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Bring physical tables offline in batches based on parameters such as physical table IDs.

```
POST https://{endpoint}/v2/{project_id}/design/approvals/batch-offline?from=standard
{
  "biz_infos" : [ {
    "biz_id" : "1229920251379118081",
    "biz_type" : "TABLE_MODEL"
  }, {

```

```
"biz_id" : "1222853173564289024",
"biz_type" : "TABLE_MODEL"
}],
"approver_user_id" : "0833a573fe80d5401f6dc010a775569a",
"approver_user_name" : "test_uesr",
"email" : null,
"fast_approval" : true
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the BatchOperationVO object. The batch object is in the BatchOperationVO.group attribute.

```
{
  "data" : {
    "value" : {
      "id" : null,
      "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "group_id" : "1230939932055457792",
      "biz_name" : null,
      "biz_id" : null,
      "operation_status" : "SUCCESS",
      "operation_type" : "OFFLINE",
      "biz_info" : null,
      "create_by" : "test_uesr",
      "remark" : null,
      "total" : 2,
      "success" : 2,
      "failed" : 0,
      "rate" : "1.00",
      "logs" : null,
      "groups" : [ {
        "id" : "1230939939395489792",
        "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
        "group_id" : "1230939932055457792",
        "biz_name" : "test_czh_0416",
        "biz_id" : "1229920251379118081",
        "operation_status" : "SUCCESS",
        "operation_type" : "OFFLINE",
        "biz_info" : "{}",
        "create_by" : "test_uesr",
        "remark" : "PASSED",
        "total" : 0,
        "success" : 0,
        "failed" : 0,
        "rate" : null,
        "logs" : null,
        "groups" : null
      }, {
        "id" : "1230939939395489793",
        "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
        "group_id" : "1230939932055457792",
        "biz_name" : "test_czh_0328",
        "biz_id" : "1222853173564289024",
        "operation_status" : "SUCCESS",
        "operation_type" : "OFFLINE",
        "biz_info" : "{}",
        "create_by" : "test_uesr",
        "remark" : "PASSED",
        "total" : 0,
        "success" : 0,
        "failed" : 0,
        "rate" : null,
        "logs" : null,
        "groups" : null
      }
    ]
  }
}
```

```
    }  
  }  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Bring physical tables offline in batches based on parameters such as physical table IDs.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class BatchOfflineSolution {  
    public static void main(String[] args) {
```

```
// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
BatchOfflineRequest request = new BatchOfflineRequest();
ApprovalBatchParam body = new ApprovalBatchParam();
List<BizInfoVO> listbodyBizInfos = new ArrayList<>();
listbodyBizInfos.add(
    new BizInfoVO()
        .withBizId("1229920251379118081")
        .withBizType(BizInfoVO.BizTypeEnum.fromValue("TABLE_MODEL"))
);
listbodyBizInfos.add(
    new BizInfoVO()
        .withBizId("1222853173564289024")
        .withBizType(BizInfoVO.BizTypeEnum.fromValue("TABLE_MODEL"))
);
body.withFastApproval(true);
body.withApproverUserName("test_uesr");
body.withApproverUserId("0833a573fe80d5401f6dc010a775569a");
body.withBizInfos(listbodyBizInfos);
request.withBody(body);
try {
    BatchOfflineResponse response = client.batchOffline(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Bring physical tables offline in batches based on parameters such as physical table IDs.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
```

```
variables and decrypted during use to ensure security.
# In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = BatchOfflineRequest()
    listBizInfosbody = [
        BizInfoVO(
            biz_id="1229920251379118081",
            biz_type="TABLE_MODEL"
        ),
        BizInfoVO(
            biz_id="1222853173564289024",
            biz_type="TABLE_MODEL"
        )
    ]
    request.body = ApprovalBatchParam(
        fast_approval=True,
        approver_user_name="test_uesr",
        approver_user_id="0833a573fe80d5401f6dc010a775569a",
        biz_infos=listBizInfosbody
    )
    response = client.batch_offline(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Bring physical tables offline in batches based on parameters such as physical table IDs.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
```

```
Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.BatchOfflineRequest{}
bizTypeBizInfos:= model.GetBizInfoVoBizTypeEnum().TABLE_MODEL
bizTypeBizInfos1:= model.GetBizInfoVoBizTypeEnum().TABLE_MODEL
var listBizInfosbody = []model.BizInfoVo{
    {
        BizId: "1229920251379118081",
        BizType: &bizTypeBizInfos,
    },
    {
        BizId: "1222853173564289024",
        BizType: &bizTypeBizInfos1,
    },
}
fastApprovalApprovalBatchParam:= true
request.Body = &model.ApprovalBatchParam{
    FastApproval: &fastApprovalApprovalBatchParam,
    ApproverUserName: "test_uesr",
    ApproverUserId: "0833a573fe80d5401f6dc010a775569a",
    BizInfos: listBizInfosbody,
}
response, err := client.BatchOffline(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the BatchOperationVO object. The batch object is in the BatchOperationVO.group attribute.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.7.6 Create Approver

Function

Create an approver.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/approvals/users

Table 7-302 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-303 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-304 Request body parameters

Parameter	Mandatory	Type	Description
app_name	No	String	Name of the application that invokes the review system, which is customized by R&D engineers.
approver_name	Yes	String	Approver name.
user_id	Yes	String	Approver ID.
email	No	String	Indicates the email address.
phone_number	No	String	Phone number.
email_notify	No	Boolean	Email Notification.
sms_notify	No	Boolean	SMS notification.

Response Parameters

Status code: 200

Table 7-305 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-306 data

Parameter	Type	Description
value	ApproverVO object	value: unified outer data structure of the returned result.

Table 7-307 ApproverVO

Parameter	Type	Description
id	String	Application ID, which is a string
approver_name	String	Approver name.
user_id	String	Approver ID.
user_name	String	Approver name.
email	String	Email information.
user_type	String	User type. Options: <ul style="list-style-type: none">• BIZ_METRIC_OWNER: business metric owner• APPROVER: approver• The owner of BIZ_METRIC_OWNER_AND_APPROVER: business metrics is the reviewer.
phone_number	String	Phone number.
create_by	String	Creator.
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
app_name	String	Name of the service system
topic_urn	String	SMN topic URN.
project_id	String	Project ID.

Status code: 400

Table 7-308 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-309** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-310** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-311** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create an approver based on the request parameters.

POST https://{endpoint}/v2/{project_id}/design/approvals/users?from=standard

```
{
  "app_name": "dlg-ds",
  "approver_name": "test_uesr",
  "user_id": "0833a573fe80d5401f6dc010a775569a",
  "email": "88664488@hw.com",
  "phone_number": "17775558866",
  "email_notify": true,
  "sms_notify": true
}
```

Example Responses

Status code: 200

This operation is successful, and the returned data is ApproverVO.

```
{
  "data": {
    "value": {
      "id": "42821",
      "approver_name": "test_uesr",
      "user_id": "0833a573fe80d5401f6dc010a775569a",
      "user_name": "test_uesr",
      "email": "88664488@hw.com",
      "phone_number": "17775558866",
      "create_by": "0833a573fe80d5401f6dc010a775569a",
      "create_time": "2024-04-19T09:59:58.000Z",
      "app_name": "dlg-ds",
      "topic_urn": "urn:smn:cn-north-7:0833a5737480d53b2f25c010dc1a7b88:DataArts_Topic_Approver_cn-north-7_0833a5737480d53b2f25c010dc1a7b88_dlg_ds_d8wwN1SH",
      "project_id": "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3"
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create an approver based on the request parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class CreateApproverSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateApproverRequest request = new CreateApproverRequest();
```

```
ApproverParam body = new ApproverParam();
body.withSmsNotify(true);
body.withEmailNotify(true);
body.withPhoneNumber("17775558866");
body.withEmail("88664488@hw.com");
body.withUserId("0833a573fe80d5401f6dc010a775569a");
body.withApproverName("test_uesr");
body.withAppName("dlg-ds");
request.withBody(body);
try {
    CreateApproverResponse response = client.createApprover(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Create an approver based on the request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateApproverRequest()
        request.body = ApproverParam(
            sms_notify=True,
            email_notify=True,
            phone_number="17775558866",
            email="88664488@hw.com",
            user_id="0833a573fe80d5401f6dc010a775569a",
            approver_name="test_uesr",
            app_name="dlg-ds"
        )
        response = client.create_approver(request)
        print(response)
    except exceptions.ClientRequestException as e:
```

```
print(e.status_code)
print(e.request_id)
print(e.error_code)
print(e.error_msg)
```

Go

Create an approver based on the request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateApproverRequest{
        smsNotifyApproverParam:= true
        emailNotifyApproverParam:= true
        phoneNumberApproverParam:= "17775558866"
        emailApproverParam:= "88664488@hw.com"
        appNameApproverParam:= "dlg-ds"
        request.Body = &model.ApproverParam{
            SmsNotify: &smsNotifyApproverParam,
            EmailNotify: &emailNotifyApproverParam,
            PhoneNumber: &phoneNumberApproverParam,
            Email: &emailApproverParam,
            UserId: "0833a573fe80d5401f6dc010a775569a",
            ApproverName: "test_uesr",
            AppName: &appNameApproverParam,
        }
    }
    response, err := client.CreateApprover(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is ApproverVO.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.7.7 Querying the Approver List

Function

This API queries the approver list.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/approvals/users

Table 7-312 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-313 Query Parameters

Parameter	Mandatory	Type	Description
approver_name	No	String	Name of the reviewer.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].

Parameter	Mandatory	Type	Description
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-314 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-315 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-316 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-317 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of ApproverVO objects	Number of approver objects (ApproverVO) that are found.

Table 7-318 ApproverVO

Parameter	Type	Description
id	String	Application ID, which is a string
approver_name	String	Approver name.
user_id	String	Approver ID.
user_name	String	Approver name.
email	String	Email information.

Parameter	Type	Description
user_type	String	User type. Options: <ul style="list-style-type: none">• BIZ_METRIC_OWNER: business metric owner• APPROVER: approver• The owner of BIZ_METRIC_OWNER_AND_APPROVER: business metrics is the reviewer.
phone_number	String	Phone number.
create_by	String	Creator.
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
app_name	String	Name of the service system
topic_urn	String	SMN topic URN.
project_id	String	Project ID.

Status code: 400**Table 7-319** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-320** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-321 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-322 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API queries the approver list.

```
GET https://{endpoint}/v2/{project_id}/design/approvals/users
```

Example Responses

Status code: 200

This operation is successful, and the returned data is the ApproverVO list and number of ApproverVOs.

```
{
  "data": {
    "value": {
      "total": 1,
```

```

"records" : [ {
  "id" : "42821",
  "approver_name" : "test_uesr",
  "user_id" : "0833a573fe80d5401f6dc010a775569a",
  "user_name" : "test_uesr",
  "email" :
"B*****user",
  "user_type" : null,
  "phone_number" :
"B*****E",
  "create_by" : "test_uesr",
  "create_time" : "2024-04-19T09:59:58.000Z",
  "app_name" : "dlg_ds",
  "topic_urn" : "urn:smn:cn-north-7:0833a5737480d53b2f25c010dc1a7b88:DataArts_Topic_Approver_cn-
north-7_0833a5737480d53b2f25c010dc1a7b88_dlg_ds_d8wwN1SH",
  "project_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3"
} ]
}
}
}

```

Status code: 400

BadRequest

```

{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}

```

Status code: 401

Unauthorized

```

{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}

```

Status code: 403

Forbidden

```

{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}

```

Status code: 404

Not Found

```

{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}

```

SDK Sample Code

The SDK sample code is as follows.

Java

```

package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;

```

```
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListApproversSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListApproversRequest request = new ListApproversRequest();
        try {
            ListApproversResponse response = client.listApprovers(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)
```

```
client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListApproversRequest()
    response = client.list_approvers(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListApproversRequest{}
    response, err := client.ListApprovers(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is the ApproverVO list and number of ApproverVOs.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.7.8 Delete Approver

Function

Delete an approver.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/approvals/users

Table 7-323 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-324 Query Parameters

Parameter	Mandatory	Type	Description
approver_ids	Yes	String	Approver ID.

Request Parameters

Table 7-325 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-326** Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-327 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400**Table 7-328** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-329** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-330** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-331** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API deletes an approver based on the approver ID.

```
DELETE https://{endpoint}/v2/{project_id}/design/approvals/users?approver_ids=38762
```

Example Responses

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class DeleteApproverSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteApproverRequest request = new DeleteApproverRequest();
        try {
            DeleteApproverResponse response = client.deleteApprover(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = DeleteApproverRequest()
    response = client.delete_approver(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteApproverRequest{}
    response, err := client.DeleteApprover(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.7.9 Deleting an Entity

Function

When a released entity is edited, an extension is generated. This API is used to delete the extension information of the entity.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/approvals/business/{biz_id}

Table 7-332 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
biz_id	Yes	String	ID of the entity to be deleted, which is a string

Table 7-333 Query Parameters

Parameter	Mandatory	Type	Description
biz_type	Yes	String	Entity type to be deleted. Options: <ul style="list-style-type: none">• ATOMIC_INDEX: atomic metric• DERIVATIVE_INDEX: derivative indicator• DIMENSION: dimension• FACT_LOGIC_TABLE: fact table• TABLE_MODEL: relationship modeling (logical entity/physical table)• STANDARD_ELEMENT: data standard• AGGREGATION_LOGIC_TABLE: summary table• CODE_TABLE: code table• BIZ_METRIC: service indicator• COMPOUND_METRIC: compound metric

Request Parameters

Table 7-334 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-335 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-336 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-337 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-338 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-339 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Delete the extended information about the table whose ID is 1217123755210469376 in ER modeling.

```
DELETE https://{endpoint}/v2/{project_id}/design/approvals/business/1217123755210469376?
biz_type=TABLE_MODEL
```

Example Responses

Status code: 200

Success. The returned data indicates the number of deleted data records. If the value is 1, the deletion is successful.

```
{
  "data" : {
```

```
"value" : 1
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class DeleteDesignLatestApprovalSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
```

```
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
DeleteDesignLatestApprovalRequest request = new DeleteDesignLatestApprovalRequest();
request.withBizId("{biz_id}");
try {
    DeleteDesignLatestApprovalResponse response = client.deleteDesignLatestApproval(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteDesignLatestApprovalRequest()
        request.biz_id = "{biz_id}"
        response = client.delete_design_latest_approval(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
```

```
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build()  
    )  
  
    request := &model.DeleteDesignLatestApprovalRequest{}  
    request.BizId = "{biz_id}"  
    response, err := client.DeleteDesignLatestApproval(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success. The returned data indicates the number of deleted data records. If the value is 1, the deletion is successful.
400	BadRequest
401	Unauthorized
403	Forbidden

7.7.10 Obtain the difference between the displayed information and the released entity.

Function

When a released entity is edited, an extension is generated. This API is used to obtain the difference between the extension information and the released entity.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/approvals/business/{biz_id}/diff

Table 7-340 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
biz_id	Yes	String	ID of the entity to be compared, which is a string

Table 7-341 Query Parameters

Parameter	Mandatory	Type	Description
biz_type	Yes	String	Entity type to be deleted. Options: <ul style="list-style-type: none">• ATOMIC_INDEX: atomic metric• DERIVATIVE_INDEX: derivative indicator• DIMENSION: dimension• FACT_LOGIC_TABLE: fact table• TABLE_MODEL: relationship modeling (logical entity/physical table)• STANDARD_ELEMENT: data standard• AGGREGATION_LOGIC_TABLE: summary table• CODE_TABLE: code table• BIZ_METRIC: service indicator• COMPOUND_METRIC: compound metric

Request Parameters

Table 7-342 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-343 Response body parameters

Parameter	Type	Description
data	data object	Data returned by the API

Table 7-344 data

Parameter	Type	Description
value	PublishVersionVO object	Version information.

Table 7-345 PublishVersionVO

Parameter	Type	Description
id	String	Version ID, which is a string
version_name	String	Version name.
version_tag	String	Version flag, which is read-only.
description	String	Version description.

Parameter	Type	Description
biz_id	String	Business object ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Service details. This parameter is read-only.
biz_info_vo	Object	Business object.
effect_objs	String	Impact information. This parameter is read-only.
change_props	String	Indicates the change information. This parameter is read-only.
sql_ddl	String	SQL script, which is read-only.

Parameter	Type	Description
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
technical_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
dlf_task	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
materialization	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
publish_to_dlm	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
biz_metric	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
is_current_version	Boolean	Indicates whether the version is the current version. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator, which is read-only.

Status code: 400**Table 7-346** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-347 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-348 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Obtain the difference between the released entity whose table ID is 1217123755210469376 and the extended information in ER modeling.

```
GET https://{endpoint}/v2/{project_id}/design/approvals/business/1217123755210469376/diff?biz_type=TABLE_MODEL
```

Example Responses

Status code: 200

This operation is successful. The returned data is a PublishVersionVO array and the total number of records.

```
{
  "data" : {
    "value" : {
      "id" : "1227929420048830464",
      "version_name" : "test_l2_2_2024-04-11_10-33-07_576",
      "version_tag" : "test_l2_2_2024-04-11_10-33-07_576",
      "description" : null,
      "biz_id" : "1217123755210469376",
      "biz_type" : "TABLE_MODEL",
      "biz_info" : "{\"versionName\":null,\"versionTag\":null,\"versionId\":null,\"createBy\":null,\"updateBy\":null,\"createTime\":1710226516000,\"updateTime\":1712802684801,\"l3Id\":null,\"l2Id\":null,\"l1Id\":null,\"alias\":null,\"encoding\":null,\"prefix\":null,\"codeNum\":null,\"extendInfo\":null,\"columnTag\":null,\"columnSecrecyLevel\":null,\"tableTag\":null,\"dirtyOutSwitch\":true,\"dirtyOutDatabase\":null,\"dirtyOutPrefix\":null,\"dirtyOutSuffix\":null,\"id\":null,\"description\":null,\"tenantId\":null}"
    }
  }
}
```

```
\"0833a5737480d53b2f25c010dc1a7b88-workspace-eeb055e69c624311b6b9cfee89a4ec70\", \"status
\": \"DRAFT\", \"tableName\": \"test_l2_2\", \"tblLogicName\": \"test_l2_2\", \"owner\": \"\", \"queueName
\": null, \"schema\": null, \"dbName\": null, \"distribute\": null, \"distributeColumn\": null, \"compression
\": null, \"obsLocation\": null, \"preCombineField\": null, \"dwld
\": \"5013aa3f86df4335945131ce9d242b80\", \"dwName\": \"RDS-Mysql\", \"dwType\": \"MYSQL
\", \"physicalTable\": \"CREATE_FAILED\", \"devPhysicalTable\": \"NO_NEED\", \"technicalAsset
\": \"CREATE_FAILED\", \"businessAsset\": \"NO_NEED\", \"metaDataLink\": \"UPDATE_FAILED\", \"dataQuality
\": \"NO_NEED\", \"dlfTask\": \"NO_NEED\", \"summaryStatus\": \"SUMMARY_FAILED\", \"materialization
\": null, \"publishToDlm\": null, \"envType\": \"PROD_TYPE\", \"devVersion\": null, \"prodVersion\": null, \"apiId
\": null, \"tblLogicGuid\": \"30a94acc-d5bd-44cf-a751-6fb82989a7c2\", \"tblGuid\": null, \"tblId
\": null, \"partitionConf\": null, \"qualityOwner\": null, \"qualityId\": null, \"useRecentlyPartition\": false, \"reversed
\": null, \"dirtyOutSwitch\": true, \"dirtyOutDatabase\": \"default\", \"dirtyOutPrefix\": \"err_\", \"dirtyOutSuffix
\": \"\", \"dlfTaskId\": null, \"selfDefinedFields\": [{\"fdNameCh\": \"aaa\", \"fdNameEn\": \"aaa\", \"notNull
\": false, \"fdValue\": \"\", \"id\": null, \"status\": null, \"fdName\": \"aaa\", \"tenantId\": null, \"nameCh
\": null, \"nameEn\": null, \"createBy\": null, \"l3Id\": null}, {\"scheduleTime\": null, \"modelId
\": \"1217123720355803136\", \"parentTableId\": null, \"parentTableName\": null, \"parentTableCode
\": null, \"relatedLogicTableId\": \"1210601123904405504\", \"relatedLogicTableName
\": \"test_l2_2\", \"relatedLogicTableModelId\": \"1184439352260976640\", \"relatedLogicTableModelName
\": \"wgttest\", \"logicTblName\": \"test_l2_2\", \"logicTbGuid\": \"30a94acc-d5bd-44cf-
a751-6fb82989a7c2\", \"logicTblId\": null, \"bizCatalogId\": \"1123655694424358912\", \"bizCatalogGuid
\": null, \"catalogPath\": \"{{l1Id|\\:\\:\\1088848987810824192|\\:\\:\\l2Id|\\:\\:\\1123655694424358912|\\
\\:\\:\\l3Id|\\:\\:\\l4Id|\\:\\:\\l5Id|\\:\\:\\l6Id|\\:\\:\\l7Id|\\:\\:\\l8Id}}\", \"secretType\": \"PUBLIC\", \"tableType\": \"MYSQL_TABLE\", \"dataFormat\": \"Parquet\", \"configs\": {\"}
\", \"obsBucket\": null, \"approval\": null, \"tags\": [{\"versionName\": null, \"versionTag\": null, \"versionId
\": null, \"createBy\": \"test_uesr\", \"updateBy\": \"0833a573fe80d5401f6dc010a775569a\", \"createTime
\": 1712800606000, \"updateTime\": 1712801851000, \"l3Id\": null, \"l2Id\": null, \"alias\": null, \"encoding
\": null, \"prefix\": null, \"codeNum\": null, \"id\": \"1196773541052301312\", \"tagId
\": \"1196773541052301312\", \"bizId\": \"1217123755210469376\", \"tagName\": \"aaa\", \"bizType
\": \"TABLE_MODEL\", \"tenantId\": \"0833a5737480d53b2f25c010dc1a7b88-workspace-
eeb055e69c624311b6b9cfee89a4ec70\", \"status\": null, \"nameCh\": null, \"nameEn\": null, \"lastL2Id
\": null}, {\"secrecyLevels\": null, \"attributes\": [{\"versionName\": null, \"versionTag\": null, \"versionId
\": null, \"createBy\": \"0833a573fe80d5401f6dc010a775569a\", \"updateBy
\": \"0833a573fe80d5401f6dc010a775569a\", \"createTime\": 1710226516000, \"updateTime
\": 1710849845000, \"l3Id\": null, \"l2Id\": null, \"alias\": null, \"encoding\": \"LP070248\", \"prefix\": \"LP
\", \"codeNum\": \"070248\", \"id\": \"1217123755210469377\", \"nameEn\": \"id\", \"nameCh\": \"id
\", \"description\": null, \"obsLocation\": null, \"dataType\": \"VARCHAR\", \"isPrimaryKey\": true, \"isPartitionKey
\": false, \"isForeignKey\": false, \"extendField\": false, \"ordinal\": 1, \"tableModelId\": null, \"relatedLogicAttrId
\": \"1210601124399333376\", \"relatedLogicAttrName\": \"id\", \"relatedLogicAttrNameEn\": \"id
\", \"standRowId\": null, \"standRowName\": null, \"tags\": [{\"versionName\": null, \"versionTag\": null, \"versionId
\": null, \"createBy\": \"test_uesr\", \"updateBy\": \"test_uesr\", \"createTime\": 1712802684000, \"updateTime
\": 1712802684000, \"l3Id\": null, \"l2Id\": null, \"alias\": null, \"encoding\": null, \"prefix\": null, \"codeNum
\": null, \"id\": \"112667\", \"tagId\": \"1196773541052301312\", \"bizId\": \"1217123755210469377\", \"tagName
\": \"aaa\", \"bizType\": \"TABLE_MODEL\", \"tenantId\": \"0833a5737480d53b2f25c010dc1a7b88-workspace-
eeb055e69c624311b6b9cfee89a4ec70\", \"status\": null, \"nameCh\": null, \"nameEn\": null, \"lastL2Id
\": null}, {\"secrecyLevels\": null, \"dataTypeExtend\": null, \"domainType\": \"STRING\", \"qualityInfos\":
[]}, {\"standElementValues\": null, \"selfDefinedFields\": [], \"notNull\": true, \"code\": \"LP070248\", \"bizCatalogId
\": null, \"status\": null, \"tenantId\": null, \"lastL2Id\": null}, {\"versionName\": null, \"versionTag\": null, \"versionId
\": null, \"createBy\": null, \"updateBy\": null, \"createTime\": 1712802684756, \"updateTime
\": 1712802684756, \"l3Id\": null, \"l2Id\": null, \"alias\": \"\", \"encoding\": \"\", \"prefix\": null, \"codeNum\": null, \"id
\": \"0\", \"nameEn\": \"add_column\", \"nameCh\": \"add_column\", \"description\": \"\", \"obsLocation
\": null, \"dataType\": \"DOUBLE\", \"isPrimaryKey\": false, \"isPartitionKey\": false, \"isForeignKey
\": false, \"extendField\": false, \"ordinal\": 2, \"tableModelId\": null, \"relatedLogicAttrId
\": null, \"relatedLogicAttrName\": null, \"relatedLogicAttrNameEn\": null, \"standRowId\": null, \"standRowName
\": null, \"tags\": [], \"secrecyLevels\": null, \"dataTypeExtend\": \"NUMBER\", \"qualityInfos
\": null, \"standElementValues\": null, \"selfDefinedFields\": [], \"notNull\": false, \"code\": \"\", \"bizCatalogId
\": null, \"status\": null, \"tenantId\": null, \"lastL2Id\": null}, {\"relations\": [{\"versionName\": null, \"versionTag
\": null, \"versionId\": null, \"createBy\": \"test_uesr\", \"updateBy\": \"test_uesr\", \"createTime
\": 1712802684757, \"updateTime\": 1712802684757, \"l3Id\": null, \"l2Id\": null, \"alias\": null, \"encoding
\": null, \"prefix\": null, \"codeNum\": null, \"id\": \"1219738211841208320\", \"name\": \"test_l2_1_test_l2_2_1-
wg_test\", \"role\": null, \"tenantId\": \"0833a5737480d53b2f25c010dc1a7b88-workspace-
eeb055e69c624311b6b9cfee89a4ec70\", \"sourceTableId\": \"1217123755206275075\", \"sourceTableName
\": \"test_l2_1\", \"sourceTableDb\": null, \"targetTableId\": \"1217123755210469376\", \"targetTableName
\": \"test_l2_2\", \"targetTableDb\": null, \"sourceType\": \"ONE\", \"targetType\": \"ONE\", \"mappings\":
[{\"versionName\": null, \"versionTag\": null, \"versionId\": null, \"createBy\": \"test_uesr\", \"updateBy
\": \"test_uesr\", \"createTime\": 1712802684757, \"updateTime\": 1712802684757, \"l3Id\": null, \"l2Id
\": null, \"alias\": null, \"encoding\": null, \"prefix\": null, \"codeNum\": null, \"id
\": \"1219738214261321728\", \"relationId\": \"1219738211841208320\", \"sourceFieldId
\": \"1217123755206275076\", \"sourceFieldName\": \"id\", \"targetFieldId
\": \"1217123755210469377\", \"targetFieldName\": \"id\", \"status\": null, \"tenantId\": null, \"nameCh
```

```
\"nameEn\":null,\"lastL2Id\":null}],\"status\":null,\"nameCh\":\\\"test_l2_1_test_l2_2_1-wg test
\\\",\\\"nameEn\":\\\"test_l2_1_test_l2_2_1-wg test \\\",\\\"lastL2Id\":null}],\"reverseRelations\":{},\"mappings
\":null,\"isPartition\":false,\"code\":\\\"test_l2_2\\\",\\\"nameCh\":\\\"test_l2_2\\\",\\\"nameEn\":\\\"test_l2_2\\\",\\\"tagList\
\":[{}\"versionName\":null,\"versionTag\":null,\"versionId\":null,\"createBy\":null,\"updateBy\":null,\"createTime
\":1712802787575,\"updateTime\":1712802787575,\"l3Id\":null,\"l2Id\":null,\"alias\":null,\"encoding
\":null,\"prefix\":null,\"codeNum\":null,\"id\":\\\"1196773541052301312\\\",\\\"name\":\\\"aaa\\\",\\\"tenantId
\":null,\"description\":null,\"newBiz\":null,\"status\":null,\"nameCh\":null,\"nameEn\":null,\"lastL2Id
\":null}],\"secrecyLevelList\":[],\"lastL2Id\":\\\"1123655694424358912\\\"}],
\"biz_info_vo\" : {
  \"id\" : \"1217123755210469376\",
  \"model_id\" : \"1217123720355803136\",
  \"parent_table_id\" : null,
  \"parent_table_name\" : null,
  \"parent_table_code\" : null,
  \"related_logic_table_id\" : \"1210601123904405504\",
  \"related_logic_table_name\" : \"test_l2_2\",
  \"related_logic_table_model_id\" : \"1184439352260976640\",
  \"related_logic_table_model_name\" : \"wgtest\",
  \"model\" : {
    \"id\" : \"1217123720355803136\",
    \"name\" : \"mysql\",
    \"description\" : \"\",
    \"is_physical\" : true,
    \"frequent\" : false,
    \"top\" : true,
    \"level\" : \"SDI\",
    \"dw_type\" : \"MYSQL\",
    \"create_time\" : 1710226508,
    \"update_time\" : 1710991309,
    \"create_by\" : \"test_uesr\",
    \"update_by\" : \"test_uesr\",
    \"type\" : \"THIRD_NF\",
    \"biz_catalog_ids\" : null,
    \"databases\" : null,
    \"table_model_prefix\" : \"\"
  },
  \"data_format\" : \"Parquet\",
  \"obs_bucket\" : null,
  \"obs_location\" : null,
  \"configs\" : \"{}\",
  \"table_type\" : \"MYSQL_TABLE\",
  \"owner\" : \"\",
  \"tb_name\" : \"test_l2_2\",
  \"dw_id\" : \"5013aa3f86df4335945131ce9d242b80\",
  \"db_name\" : null,
  \"queue_name\" : null,
  \"schema\" : null,
  \"extend_info\" : \"{\\\"columnTag\\\":\\\" \\\",\\\"columnSecrecyLevel\\\":\\\" \\\",\\\"tableTag\\\":\\\" \\\",\\\"dirtyOutSwitch
\\\":\\\"true\\\",\\\"dirtyOutDatabase\\\":\\\"default\\\",\\\"dirtyOutPrefix\\\":\\\"err_\\\",\\\"dirtyOutSuffix\\\":\\\" \\\",\\\"
\\\"\",
  \"tb_guid\" : null,
  \"tb_id\" : null,
  \"logic_tb_name\" : \"test_l2_2\",
  \"logic_tb_guid\" : \"30a94acc-d5bd-44cf-a751-6fb82989a7c2\",
  \"description\" : \"None\",
  \"status\" : \"DRAFT\",
  \"logic_tb_id\" : null,
  \"biz_catalog_id\" : \"1123655694424358912\",
  \"catalog_path\" : \"l52/test_l2_3\",
  \"create_by\" : \"test_uesr\",
  \"update_by\" : \"test_uesr\",
  \"create_time\" : 1710226516,
  \"update_time\" : 1.712802684801E9,
  \"tags\" : [ {
    \"id\" : \"1196773541052301312\",
    \"tag_id\" : \"1196773541052301312\",
    \"tag_name\" : \"aaa\",
    \"biz_id\" : \"1217123755210469376\",
    \"biz_type\" : \"TABLE_MODEL\",
    \"create_by\" : \"test_uesr\",
```

```
"update_by" : "test_uesr",
"create_time" : 1712800606,
"update_time" : 1712801851
}],
"attributes" : [ {
  "id" : "1217123755210469377",
  "name_en" : "id",
  "name_ch" : "id",
  "description" : null,
  "obs_location" : null,
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "data_type" : "VARCHAR",
  "domain_type" : "STRING",
  "data_type_extend" : null,
  "is_primary_key" : true,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
  "not_null" : true,
  "ordinal" : 1,
  "table_model_id" : null,
  "create_time" : 1710226516,
  "update_time" : 1710849845,
  "tags" : [ {
    "id" : "112667",
    "tag_id" : "1196773541052301312",
    "tag_name" : "aaa",
    "biz_id" : "1217123755210469377",
    "biz_type" : "TABLE_MODEL",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : 1712802684,
    "update_time" : 1712802684
  } ],
  "secrecy_levels" : null,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : null,
  "self_defined_fields" : [ ],
  "code" : "LP070248",
  "related_logic_attr_id" : "1210601124399333376",
  "related_logic_attr_name" : "id",
  "related_logic_attr_name_en" : "id"
}, {
  "id" : "0",
  "name_en" : "add_column",
  "name_ch" : "add_column",
  "description" : "",
  "obs_location" : null,
  "create_by" : null,
  "update_by" : null,
  "data_type" : "DOUBLE",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
  "not_null" : false,
  "ordinal" : 2,
  "table_model_id" : null,
  "create_time" : 1.712802684756E9,
  "update_time" : 1.712802684756E9,
  "tags" : [ ],
  "secrecy_levels" : null,
  "stand_row_id" : null,
  "stand_row_name" : null,
```

```
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ ],
"code" : "",
"related_logic_attr_id" : null,
"related_logic_attr_name" : null,
"related_logic_attr_name_en" : null
} ],
"mappings" : null,
"relations" : [ {
  "id" : "1219738211841208320",
  "source_table_id" : "1217123755206275075",
  "target_table_id" : "1217123755210469376",
  "name" : "test_l2_1_test_l2_2_1-wg test",
  "source_table_name" : "test_l2_1",
  "target_table_name" : "test_l2_2",
  "role" : null,
  "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-
eeb055e69c624311b6b9cfee89a4ec70",
  "source_type" : "ONE",
  "target_type" : "ONE",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : 1.712802684757E9,
  "update_time" : 1.712802684757E9,
  "mappings" : [ {
    "id" : "1219738214261321728",
    "relation_id" : "1219738211841208320",
    "source_field_id" : "1217123755206275076",
    "target_field_id" : "1217123755210469377",
    "source_field_name" : "id",
    "target_field_name" : "id",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : 1.712802684757E9,
    "update_time" : 1.712802684757E9
  } ]
} ],
"dw_type" : "MYSQL",
"dw_name" : "RDS-Mysql",
"l1" : "l52",
"l2" : "test_l2_3",
"l3" : null,
"l1_id" : "1088848987810824192",
"l2_id" : "1123655694424358912",
"l3_id" : null,
"partition_conf" : null,
"dlf_task_id" : null,
"use_recently_partition" : false,
"reversed" : null,
"dirty_out_switch" : true,
"dirty_out_database" : "default",
"dirty_out_prefix" : "err_",
"dirty_out_suffix" : "",
"quality_owner" : null,
"quality_id" : null,
"distribute" : null,
"distribute_column" : null,
"compression" : null,
"pre_combine_field" : null,
"is_partition" : false,
"physical_table" : "CREATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "NO_NEED",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"summary_status" : "SUMMARY_FAILED",
"dev_version" : null,
```

```
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE",
"alias" : null,
"self_defined_fields" : [ {
  "fd_name_ch" : "aaa",
  "fd_name_en" : "aaa",
  "not_null" : false,
  "fd_value" : ""
} ],
"code" : "test_l2_2",
"has_related_physical_table" : false,
"has_related_logic_table" : false
},
"effect_objs" : null,
"change_props" : "Basic information:\nData format: CcParquet@CC\n\n\nTable fields:\n\nadd_column: English name: Ccadd_column@CC name: Ccadd_column@CC data type: CCDOUBLE@CC
primary key: Ccfalse@CC partition: Ccfalse@CC foreign key: Ccfalse@CC sequence number: CC2@CC data
type extension: CC@CC is not empty: Ccfalse@CC code: CC@CC.\n\nRelationship:\n\ntest_l2_1_test_l2_2_1-
wg test: Name: Cctest_l2_1_test_l2_2_1-wg test@CC child table: Cctest_l2_1@CC parent table:
Cctest_l2_2@CC child pair: CCONE@CC parent pair: CCONE@CC\nField mapping:\nChild table field:
CCid@CC Parent table field: CCid@CC",
"sql_ddl" : "ALTER TABLE ${database}.test_l2_2 ADD add_column DOUBLE;",
"physical_table" : null,
"technical_asset" : null,
"business_asset" : null,
"meta_data_link" : null,
"data_quality" : null,
"dfl_task" : null,
"materialization" : null,
"publish_to_dlm" : null,
"biz_metric" : null,
"summary_status" : null,
"is_current_version" : false,
"create_time" : "2024-04-11T10:33:07.565+08:00",
"create_by" : "test_uesr"
}
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchDesignLatestApprovalDiffSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchDesignLatestApprovalDiffRequest request = new SearchDesignLatestApprovalDiffRequest();
        request.withBizId("{biz_id}");
        try {
            SearchDesignLatestApprovalDiffResponse response =
            client.searchDesignLatestApprovalDiff(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *
```



```
if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchDesignLatestApprovalDiffRequest()
        request.biz_id = "{biz_id}"
        response = client.search_design_latest_approval_diff(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.SearchDesignLatestApprovalDiffRequest{}
    request.BizId = "{biz_id}"
    response, err := client.SearchDesignLatestApprovalDiff(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
```

```
    fmt.Println(err)
  }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful. The returned data is a PublishVersionVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.8 Subject Management

7.8.1 Searching for a Topic List

Function

Search for topics by name (fuzzy query is supported), creator, owner, status, and modification time.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/subjects

Table 7-349 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-350 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
owner	No	String	Query by owner.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be approved• PUBLISHED: released• OFFLINE_DEVELOPING: to be approved• OFFLINE: offline• REJECT: rejected
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].

Parameter	Mandatory	Type	Description
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
parent_id	No	String	Parent category ID. The root category does not have this ID. If this parameter is left empty, all categories are displayed. The value -1 indicates a category under the root category. ID string

Request Parameters

Table 7-351 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-352 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-353 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-354 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of CatalogVO objects	Number of found application object (CatalogVO) groups.

Table 7-355 CatalogVO

Parameter	Type	Description
name_ch	String	Chinese name
name_en	String	English name.

Parameter	Type	Description
description	String	Description
qualified_name	String	File name extension.
guid	String	GUID, which is automatically generated.
code	String	Code.
alias	String	Alias
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
data_owner	String	Data owner.
data_owner_list	String	Data owner set.
data_department	String	Data domain.
path	String	Path information.
level	Integer	Level information.
ordinal	Integer	Sequence number.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID, which is a string. If no parent directory ID exists, the parent directory is the root directory.
swap_order_id	String	ID of the target node at the same layer, which is a string
id	String	Subject ID, which is a string
qualified_id	String	Authentication ID, which is automatically generated.

Parameter	Type	Description
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
children_num	Integer	Number of subprocesses, excluding subprocesses. This parameter is not transferred from the front end.
children	Array of CatalogVO objects	Lower-level subdirectory, which is read-only.
self_defined_fields	Array of SelfDefinedField-VO objects	Customize Attribute Field:

Table 7-356 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-357 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-358 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-359** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-360** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-361** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Query the list of themes whose status is Draft and whose names contain test_.

```
GET https://{endpoint}/v2/{project_id}/design/subjects?name=test_&parent_id=-1&status=DRAFT
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a CatalogVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "name_ch": "test_001",
        "name_en": "BO000000",
        "description": null,
        "qualified_name": "BO000000@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
        "guid": null,
        "code": null,
        "status": "DRAFT",
        "new_biz": null,
        "alias": null,
        "data_owner": "1",
        "data_owner_list": ["test_uesr"],
        "data_department": null,
        "path": "test_001",
        "level": 1,
        "ordinal": 1,
        "owner": "test_uesr",
        "parent_id": null,
        "swap_order_id": null,
        "id": "1193139703919030272",
        "qualified_id": null,
        "from_public": false,
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "create_time": "2024-01-06T10:31:13+08:00",
        "update_time": "2024-01-06T10:42:30+08:00",
        "self_defined_fields": null,
        "children_num": null,
        "children": null
      } ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
}
```

```
"error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class SearchSubjectSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```

```
        .build();
        SearchSubjectRequest request = new SearchSubjectRequest();
        try {
            SearchSubjectResponse response = client.searchSubject(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchSubjectRequest()
        response = client.search_subject(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
```

```
// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.SearchSubjectRequest{}
response, err := client.SearchSubject(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a CatalogVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.8.2 Deleting a Topic

Function

Delete a topic.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/subjects

Table 7-362 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-363 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-364 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> ● PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-365 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-366 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400**Table 7-367** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-368** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-369** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-370 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API deletes theme information by ID.

```
DELETE https://{endpoint}/v2/{project_id}/design/subjects
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of deleted data records.

```
{  
  "value" : 2  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",
```

```
"error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class DeleteSubjectSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteSubjectRequest request = new DeleteSubjectRequest();
        IdsParam body = new IdsParam();
        request.withBody(body);
        try {
            DeleteSubjectResponse response = client.deleteSubject(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
```

```
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteSubjectRequest()
        request.body = IdsParam(
        )
        response = client.delete_subject(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteSubjectRequest{}
```

```

request.Body = &model.IdsParam{
}
response, err := client.DeleteSubject(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}

```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.8.3 Creating a topic

Function

Creating a topic

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/subjects

Table 7-371 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-372 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-373 Request body parameters

Parameter	Mandatory	Type	Description
entity	Yes	CatalogEntityVO object	Catalog entity.

Table 7-374 CatalogEntityVO

Parameter	Mandatory	Type	Description
typeName	No	String	Type name. Set this parameter to BusinessCatalog (service layer).
attributes	Yes	CatalogAttributeVO object	Attribute List

Table 7-375 CatalogAttributeVO

Parameter	Mandatory	Type	Description
path	Yes	String	Path. Use slashes (/) to separate them, for example, Operation Domain/Cloud Academy/Cloud Academy Training Solution.
qualifiedName	Yes	String	Asset name.
level	Yes	String	Level to which a theme belongs.
name	Yes	String	Name.
nameEng	Yes	String	English name.
alias	No	String	Alias
description	Yes	String	Description.
dataOwner	Yes	String	Data subject.
owner	No	String	Owner of the instance.
dataOwnerList	Yes	Array of strings	List of data subjects.
createTime	No	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
createBy	No	String	Creator.

Parameter	Mandatory	Type	Description
updateTime	No	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
updateBy	No	String	Person who updates the information.
parent	No	parent object	Parent node.
parentId	No	String	Parent node ID.
l1	No	Boolean	Indicates whether the layer is L1. Subject area group.
l2	No	Boolean	Indicates whether the layer is L2. Subject area.
l3	No	Boolean	Indicates whether the layer is L3. Business object.
ordinal	No	Integer	Sequence number. Topics are sorted in ascending order based on the ID.
tenantId	No	String	Specifies the tenant ID. For details about how to obtain the value, see the path parameter <code>project_id</code> of this API.
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item. Customized attribute item of a theme.

Table 7-376 parent

Parameter	Mandatory	Type	Description
id	No	String	Parent node ID.

Table 7-377 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.

Parameter	Mandatory	Type	Description
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Response Parameters

Status code: 200

Table 7-378 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-379 data

Parameter	Type	Description
value	CatalogVO object	value: unified outer data structure of the returned result.

Table 7-380 CatalogVO

Parameter	Type	Description
name_ch	String	Chinese name
name_en	String	English name.
description	String	Description
qualified_name	String	File name extension.
guid	String	GUID, which is automatically generated.
code	String	Code.
alias	String	Alias

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
data_owner	String	Data owner.
data_owner_list	String	Data owner set.
data_department	String	Data domain.
path	String	Path information.
level	Integer	Level information.
ordinal	Integer	Sequence number.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID, which is a string. If no parent directory ID exists, the parent directory is the root directory.
swap_order_id	String	ID of the target node at the same layer, which is a string
id	String	Subject ID, which is a string
qualified_id	String	Authentication ID, which is automatically generated.
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
children_num	Integer	Number of subprocesses, excluding subprocesses. This parameter is not transferred from the front end.
children	Array of CatalogVO objects	Lower-level subdirectory, which is read-only.
self_defined_fields	Array of SelfDefinedField-VO objects	Customize Attribute Field:

Table 7-381 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-382 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-383 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-384** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-385** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-386** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a topic based on the request parameters.

```
POST https://{endpoint}/v2/{project_id}/design/subjects
```

```
{
  "entity" : {
    "attributes" : {
      "path" : "test_create_catalog",
      "qualifiedName" : "test_create_catalog@Business",
      "level" : "L1",
      "name" : "test_create_catalog",
      "nameEng" : "test_create_catalog",
      "alias" : "",
      "description" : "this is a demo.",
      "createTime" : 1713576437311,
      "updateTime" : 1713576437311,
      "dataOwner" : "dataOwner",
      "dataOwnerList" : [ "test_uesr" ],
      "self_defined_fields" : [ ]
    },
    "typeName" : "BusinessCatalog"
  }
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is entity details.

```
{
  "data" : {
    "value" : {
      "name_ch" : "test_create_catalog",
      "name_en" : "test_create_catalog",
      "description" : "this is a demo.",
      "qualified_name" : "test_create_catalog@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "guid" : null,
      "code" : null,
      "status" : "DRAFT",
      "new_biz" : null,
      "alias" : "",
      "data_owner" : "dataOwner",
      "data_owner_list" : [\"test_uesr\"],
      "data_department" : null,
      "path" : "test_create_catalog",
      "level" : 1,
      "ordinal" : 10,
      "owner" : "test_uesr",
      "parent_id" : null,
      "swap_order_id" : null,
      "id" : "1231174343611035648",
      "qualified_id" : null,
      "from_public" : null,
      "create_by" : "test_uesr",

```

```
"update_by" : "test_uesr",
"create_time" : "2024-04-20T09:27:17.63+08:00",
"update_time" : "2024-04-20T09:27:17.63+08:00",
"self_defined_fields" : [ ],
"children_num" : null,
"children" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a topic based on the request parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;
```

```
public class CreateSubjectSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateSubjectRequest request = new CreateSubjectRequest();
        CatalogParamsVO body = new CatalogParamsVO();
        List<String> listAttributesDataOwnerList = new ArrayList<>();
        listAttributesDataOwnerList.add("test_uesr");
        CatalogAttributeVO attributesEntity = new CatalogAttributeVO();
        attributesEntity.withPath("test_create_catalog")
            .withQualifiedName("test_create_catalog@Business")
            .withLevel("L1")
            .withName("test_create_catalog")
            .withNameEng("test_create_catalog")
            .withAlias("")
            .withDescription("this is a demo.")
            .withDataOwner("dataOwner")
            .withDataOwnerList(listAttributesDataOwnerList)
            .withCreateTime("1713576437311")
            .withUpdateTime("1713576437311");
        CatalogEntityVO entitybody = new CatalogEntityVO();
        entitybody.withTypeName("BusinessCatalog")
            .withAttributes(attributesEntity);
        body.withEntity(entitybody);
        request.withBody(body);
        try {
            CreateSubjectResponse response = client.createSubject(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Create a topic based on the request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
```

```
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateSubjectRequest()
        listDataOwnerListAttributes = [
            "test_uesr"
        ]
        attributesEntity = CatalogAttributeVO(
            path="test_create_catalog",
            qualified_name="test_create_catalog@Business",
            level="L1",
            name="test_create_catalog",
            name_eng="test_create_catalog",
            alias="",
            description="this is a demo.",
            data_owner="dataOwner",
            data_owner_list=listDataOwnerListAttributes,
            create_time="1713576437311",
            update_time="1713576437311"
        )
        entitybody = CatalogEntityVO(
            type_name="BusinessCatalog",
            attributes=attributesEntity
        )
        request.body = CatalogParamsVO(
            entity=entitybody
        )
        response = client.create_subject(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Create a topic based on the request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```

```
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.CreateSubjectRequest{}
var listDataOwnerListAttributes = []string{
    "test_uesr",
}
aliasAttributes:= ""
createTimeAttributes:= "1713576437311"
updateTimeAttributes:= "1713576437311"
attributesEntity := &model.CatalogAttributeVo{
    Path: "test_create_catalog",
    QualifiedName: "test_create_catalog@Business",
    Level: "L1",
    Name: "test_create_catalog",
    NameEng: "test_create_catalog",
    Alias: &aliasAttributes,
    Description: "this is a demo.",
    DataOwner: "dataOwner",
    DataOwnerList: listDataOwnerListAttributes,
    CreateTime: &createTimeAttributes,
    UpdateTime: &updateTimeAttributes,
}
typeNameEntity:= "BusinessCatalog"
entitybody := &model.CatalogEntityVo{
    TypeName: &typeNameEntity,
    Attributes: attributesEntity,
}
request.Body = &model.CatalogParamsVo{
    Entity: entitybody,
}
response, err := client.CreateSubject(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is entity details.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.8.4 Changing a topic

Function

Modify a theme.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/subjects

Table 7-387 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-388 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-389 Request body parameters

Parameter	Mandatory	Type	Description
entity	Yes	CatalogEntityVO object	Catalog entity.

Table 7-390 CatalogEntityVO

Parameter	Mandatory	Type	Description
typeName	No	String	Type name. Set this parameter to BusinessCatalog (service layer).
attributes	Yes	CatalogAttributeVO object	Attribute List

Table 7-391 CatalogAttributeVO

Parameter	Mandatory	Type	Description
path	Yes	String	Path. Use slashes (/) to separate them, for example, Operation Domain/Cloud Academy/Cloud Academy Training Solution.
qualifiedName	Yes	String	Asset name.
level	Yes	String	Level to which a theme belongs.
name	Yes	String	Name.
nameEng	Yes	String	English name.
alias	No	String	Alias
description	Yes	String	Description.
dataOwner	Yes	String	Data subject.
owner	No	String	Owner of the instance.
dataOwnerList	Yes	Array of strings	List of data subjects.
createTime	No	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
createBy	No	String	Creator.

Parameter	Mandatory	Type	Description
updateTime	No	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
updateBy	No	String	Person who updates the information.
parent	No	parent object	Parent node.
parentId	No	String	Parent node ID.
l1	No	Boolean	Indicates whether the layer is L1. Subject area group.
l2	No	Boolean	Indicates whether the layer is L2. Subject area.
l3	No	Boolean	Indicates whether the layer is L3. Business object.
ordinal	No	Integer	Sequence number. Topics are sorted in ascending order based on the ID.
tenantId	No	String	Specifies the tenant ID. For details about how to obtain the value, see the path parameter <code>project_id</code> of this API.
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item. Customized attribute item of a theme.

Table 7-392 parent

Parameter	Mandatory	Type	Description
id	No	String	Parent node ID.

Table 7-393 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.

Parameter	Mandatory	Type	Description
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Response Parameters

Status code: 200

Table 7-394 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-395 data

Parameter	Type	Description
value	CatalogVO object	value: unified outer data structure of the returned result.

Table 7-396 CatalogVO

Parameter	Type	Description
name_ch	String	Chinese name
name_en	String	English name.
description	String	Description
qualified_name	String	File name extension.
guid	String	GUID, which is automatically generated.
code	String	Code.
alias	String	Alias

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
data_owner	String	Data owner.
data_owner_list	String	Data owner set.
data_department	String	Data domain.
path	String	Path information.
level	Integer	Level information.
ordinal	Integer	Sequence number.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID, which is a string. If no parent directory ID exists, the parent directory is the root directory.
swap_order_id	String	ID of the target node at the same layer, which is a string
id	String	Subject ID, which is a string
qualified_id	String	Authentication ID, which is automatically generated.
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
children_num	Integer	Number of subprocesses, excluding subprocesses. This parameter is not transferred from the front end.
children	Array of CatalogVO objects	Lower-level subdirectory, which is read-only.
self_defined_fields	Array of SelfDefinedField-VO objects	Customize Attribute Field:

Table 7-397 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-398 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-399 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-400** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-401** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-402** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Modify the topic based on the request parameters.

```
PUT https://{endpoint}/v2/{project_id}/design/subjects
```

```
{
  "entity" : {
    "attributes" : {
      "path" : "test_update_catalog",
      "qualifiedName" : "test_create_catalog@Business",
      "level" : "L1",
      "name" : "test_update_catalog",
      "nameEng" : "test_create_catalog",
      "alias" : "",
      "description" : "this is a update demo.",
      "createTime" : 1713578994820,
      "updateTime" : 1713578994820,
      "dataOwner" : "dataOwner",
      "dataOwnerList" : [ "test_uesr" ],
      "self_defined_fields" : [ ]
    },
    "typeName" : "BusinessCatalog"
  }
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is entity details.

```
{
  "data" : {
    "value" : {
      "name_ch" : "test_update_catalog",
      "name_en" : "test_create_catalog",
      "description" : "this is a update demo.",
      "qualified_name" : "test_create_catalog@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "guid" : null,
      "code" : null,
      "status" : "DRAFT",
      "new_biz" : null,
      "alias" : "",
      "data_owner" : "dataOwner",
      "data_owner_list" : [\"test_uesr\"],
      "data_department" : null,
      "path" : "test_update_catalog",
      "level" : 1,
      "ordinal" : null,
      "owner" : "test_uesr",
      "parent_id" : null,
      "swap_order_id" : null,
      "id" : "1231174343611035648",
      "qualified_id" : null,
      "from_public" : null,
      "create_by" : "test_uesr",

```

```
"update_by" : "test_uesr",
"create_time" : "2024-04-20T09:27:18+08:00",
"update_time" : "2024-04-20T10:09:55.034+08:00",
"self_defined_fields" : [ ],
"children_num" : null,
"children" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Modify the topic based on the request parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;
```

```
public class UpdateSubjectSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateSubjectRequest request = new UpdateSubjectRequest();
        CatalogParamsVO body = new CatalogParamsVO();
        List<String> listAttributesDataOwnerList = new ArrayList<>();
        listAttributesDataOwnerList.add("test_uesr");
        CatalogAttributeVO attributesEntity = new CatalogAttributeVO();
        attributesEntity.withPath("test_update_catalog")
            .withQualifiedName("test_create_catalog@Business")
            .withLevel("L1")
            .withName("test_update_catalog")
            .withNameEng("test_create_catalog")
            .withAlias("")
            .withDescription("this is a update demo.")
            .withDataOwner("dataOwner")
            .withDataOwnerList(listAttributesDataOwnerList)
            .withCreateTime("1713578994820")
            .withUpdateTime("1713578994820");
        CatalogEntityVO entitybody = new CatalogEntityVO();
        entitybody.withTypeName("BusinessCatalog")
            .withAttributes(attributesEntity);
        body.withEntity(entitybody);
        request.withBody(body);
        try {
            UpdateSubjectResponse response = client.updateSubject(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Modify the topic based on the request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
```

```
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateSubjectRequest()
        listDataOwnerListAttributes = [
            "test_uesr"
        ]
        attributesEntity = CatalogAttributeVO(
            path="test_update_catalog",
            qualified_name="test_create_catalog@Business",
            level="L1",
            name="test_update_catalog",
            name_eng="test_create_catalog",
            alias="",
            description="this is a update demo.",
            data_owner="dataOwner",
            data_owner_list=listDataOwnerListAttributes,
            create_time="1713578994820",
            update_time="1713578994820"
        )
        entitybody = CatalogEntityVO(
            type_name="BusinessCatalog",
            attributes=attributesEntity
        )
        request.body = CatalogParamsVO(
            entity=entitybody
        )
        response = client.update_subject(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Modify the topic based on the request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```

```
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.UpdateSubjectRequest{}
var listDataOwnerListAttributes = []string{
    "test_uesr",
}
aliasAttributes:= ""
createTimeAttributes:= "1713578994820"
updateTimeAttributes:= "1713578994820"
attributesEntity := &model.CatalogAttributeVo{
    Path: "test_update_catalog",
    QualifiedName: "test_create_catalog@Business",
    Level: "L1",
    Name: "test_update_catalog",
    NameEng: "test_create_catalog",
    Alias: &aliasAttributes,
    Description: "this is a update demo.",
    DataOwner: "dataOwner",
    DataOwnerList: listDataOwnerListAttributes,
    CreateTime: &createTimeAttributes,
    UpdateTime: &updateTimeAttributes,
}
typeNameEntity:= "BusinessCatalog"
entitybody := &model.CatalogEntityVo{
    TypeName: &typeNameEntity,
    Attributes: attributesEntity,
}
request.Body = &model.CatalogParamsVo{
    Entity: entitybody,
}
response, err := client.UpdateSubject(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is entity details.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.8.5 Obtaining Topic Tree Information

Function

Obtain the data asset subject tree information l1, l2, and l3.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/subjects/business

Table 7-403 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-404 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].

Parameter	Mandatory	Type	Description
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-405 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-406 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 400

Table 7-407 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-408 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-409 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message

Parameter	Type	Description
data	Object	Returned data information.

Example Requests

Obtain the number of data asset topics l1, l2, and l3 in the current workspace.

```
GET https://{endpoint}/v2/{project_id}/design/subjects/business
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is all L1, L2, and L3 entities.

```
{
  "data": {
    "value": [ {
      "id": "1193142949320474624",
      "name": "test_import",
      "qname": "test_import@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "guid": null,
      "ordinal": 1,
      "row": null,
      "catalog": {
        "versionName": null,
        "versionTag": null,
        "versionId": null,
        "createBy": "0833a573fe80d5401f6dc010a775569a",
        "updateBy": "0833a573fe80d5401f6dc010a775569a",
        "createTime": "2024-01-06T02:44:07.000Z",
        "updateTime": "2024-01-26T03:16:24.000Z",
        "l3Id": null,
        "l2Id": null,
        "alias": null,
        "encoding": null,
        "prefix": null,
        "codeNum": null,
        "id": "1193142949320474624",
        "nameCh": "test_import",
        "nameEn": "test_import",
        "qualifiedName": "test_import@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
        "description": null,
        "owner": "0833a573fe80d5401f6dc010a775569a",
        "guid": "36999ee2-80df-4cad-b5d5-10c50fbeb401",
        "code": null,
        "tenantId": "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
        "selfDefinedFields": [ ],
        "dataOwner": "",
        "dataOwnerList": ["test_ues"],
        "dataDepartment": null,
        "path": "test_import",
        "parentId": null,
        "level": 1,
        "ordinal": 1,
        "status": "PUBLISHED",
        "approvalInfo": null,
        "newBiz": null,
        "fromPublic": false,
        "swapOrderId": null,
        "levelStr": "1",
      }
    ]
  }
}
```

```
"lastL2Id" : null
},
"attributes" : {
  "alias" : null,
  "approvalInfo" : null,
  "code" : null,
  "codeNum" : null,
  "createBy" : "0833a573fe80d5401f6dc010a775569a",
  "createTime" : "2024-01-06T02:44:07.000Z",
  "dataDepartment" : null,
  "dataOwner" : "",
  "dataOwnerList" : [ "test_uesr" ],
  "description" : null,
  "encoding" : null,
  "fromPublic" : false,
  "guid" : "36999ee2-80df-4cad-b5d5-10c50fbeb401",
  "id" : "1193142949320474624",
  "l1" : true,
  "l2" : false,
  "l2Id" : null,
  "l3" : false,
  "l3Id" : null,
  "lastL2Id" : null,
  "level" : 1,
  "levelStr" : "1",
  "name" : "test_import",
  "nameCh" : "test_import",
  "nameEn" : "test_import",
  "nameEng" : "test_import",
  "newBiz" : null,
  "ordinal" : 1,
  "owner" : "0833a573fe80d5401f6dc010a775569a",
  "parentId" : null,
  "path" : "test_import",
  "prefix" : null,
  "qualifiedName" : "test_import@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "selfDefinedFields" : [ ],
  "status" : "PUBLISHED",
  "swapOrderId" : null,
  "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "updateBy" : "0833a573fe80d5401f6dc010a775569a",
  "updateTime" : "2024-01-26T03:16:24.000Z",
  "versionId" : null,
  "versionName" : null,
  "versionTag" : null
},
"childs" : [ {
  "id" : "1193143478364811264",
  "name" : "test_import_l2",
  "qname" : "test_import.test_import_l2@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "guid" : null,
  "ordinal" : 1,
  "row" : null,
  "catalog" : {
    "versionName" : null,
    "versionTag" : null,
    "versionId" : null,
    "createBy" : "0833a573fe80d5401f6dc010a775569a",
    "updateBy" : "0833a573fe80d5401f6dc010a775569a",
    "createTime" : "2024-01-06T02:46:13.000Z",
    "updateTime" : "2024-01-26T03:17:18.000Z",
    "l3Id" : null,
    "l2Id" : null,
    "alias" : "",
    "encoding" : null,
    "prefix" : null,
    "codeNum" : null,
```

```
"id" : "1193143478364811264",
"nameCh" : "test_import_l2",
"nameEn" : "test_import_l2",
"qualifiedName" : "test_import.test_import_l2@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "ada",
"owner" : "0833a573fe80d5401f6dc010a775569a",
"guid" : "d6d60e9c-a17c-4acc-b722-3aa4eb86a70b",
"code" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"dataOwner" : "",
"dataOwnerList" : [\"test_uesr\"],
"dataDepartment" : null,
"path" : "test_import/test_import_l2",
"parentId" : "1193142949320474624",
"level" : 2,
"ordinal" : 1,
"status" : "PUBLISHED",
"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "2",
"lastL2Id" : null
},
"attributes" : {
"alias" : "",
"approvalInfo" : null,
"code" : null,
"codeNum" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2024-01-06T02:46:13.000Z",
"dataDepartment" : null,
"dataOwner" : "",
"dataOwnerList" : [ "test_uesr" ],
"description" : "ada",
"encoding" : null,
"fromPublic" : false,
"guid" : "d6d60e9c-a17c-4acc-b722-3aa4eb86a70b",
"id" : "1193143478364811264",
"l1" : false,
"l2" : true,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 2,
"levelStr" : "2",
"name" : "test_import_l2",
"nameCh" : "test_import_l2",
"nameEn" : "test_import_l2",
"nameEng" : "test_import_l2",
"newBiz" : null,
"ordinal" : 1,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : "1193142949320474624",
"path" : "test_import/test_import_l2",
"prefix" : null,
"qualifiedName" : "test_import.test_import_l2@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2024-01-26T03:17:18.000Z",
"versionId" : null,
"versionName" : null,
```

```
    "versionTag" : null
  },
  "childs" : [ {
    "id" : "1200428564969857024",
    "name" : "test_import_l3",
    "qname" :
"test_import.test_import_l2.test_import_l3@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "guid" : null,
    "ordinal" : 1,
    "row" : null,
    "catalog" : {
      "versionName" : null,
      "versionTag" : null,
      "versionId" : null,
      "createBy" : "0833a573fe80d5401f6dc010a775569a",
      "updateBy" : "0833a573fe80d5401f6dc010a775569a",
      "createTime" : "2024-01-26T05:14:33.000Z",
      "updateTime" : "2024-01-26T05:16:35.000Z",
      "l3Id" : null,
      "l2Id" : null,
      "alias" : "",
      "encoding" : null,
      "prefix" : null,
      "codeNum" : null,
      "id" : "1200428564969857024",
      "nameCh" : "test_import_l3",
      "nameEn" : "test_import_l3",
      "qualifiedName" :
"test_import.test_import_l2.test_import_l3@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "description" : "",
      "owner" : "0833a573fe80d5401f6dc010a775569a",
      "guid" : "a7cfe748-ec64-4fe8-ae55-303e9782aa15",
      "code" : null,
      "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "selfDefinedFields" : [ ],
      "dataOwner" : "",
      "dataOwnerList" : ["test_uesr"],
      "dataDepartment" : null,
      "path" : "test_import/test_import_l2/test_import_l3",
      "parentId" : "1193143478364811264",
      "level" : 3,
      "ordinal" : 1,
      "status" : "PUBLISHED",
      "approvalInfo" : null,
      "newBiz" : null,
      "fromPublic" : false,
      "swapOrderId" : null,
      "levelStr" : "3",
      "lastL2Id" : null
    },
    "attributes" : {
      "alias" : "",
      "approvalInfo" : null,
      "code" : null,
      "codeNum" : null,
      "createBy" : "0833a573fe80d5401f6dc010a775569a",
      "createTime" : "2024-01-26T05:14:33.000Z",
      "dataDepartment" : null,
      "dataOwner" : "",
      "dataOwnerList" : [ "test_uesr" ],
      "description" : "",
      "encoding" : null,
      "fromPublic" : false,
      "guid" : "a7cfe748-ec64-4fe8-ae55-303e9782aa15",
      "id" : "1200428564969857024",
      "l1" : false,
```

```
"l2" : true,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 3,
"levelStr" : "3",
"name" : "test_import_l3",
"nameCh" : "test_import_l3",
"nameEn" : "test_import_l3",
"nameEng" : "test_import_l3",
"newBiz" : null,
"ordinal" : 1,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : "1193143478364811264",
"path" : "test_import/test_import_l2/test_import_l3",
"prefix" : null,
"qualifiedName" :
"test_import.test_import_l2.test_import_l3@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2024-01-26T05:16:35.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ {
"child" : [ {
"id" : "1226991880613593088",
"name" : "test_import_l4",
"qname" :
"test_import.test_import_l2.test_import_l3.test_import_l4@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"guid" : null,
"ordinal" : 1,
"row" : null,
"catalog" : {
"versionName" : null,
"versionTag" : null,
"versionId" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2024-04-08T12:27:41.000Z",
"updateTime" : "2024-04-08T12:27:50.000Z",
"l3Id" : null,
"l2Id" : null,
"alias" : "",
"encoding" : null,
"prefix" : null,
"codeNum" : null,
"id" : "1226991880613593088",
"nameCh" : "test_import_l4",
"nameEn" : "test_import_l4",
"qualifiedName" :
"test_import.test_import_l2.test_import_l3.test_import_l4@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "",
"owner" : "0833a573fe80d5401f6dc010a775569a",
"guid" : "8b61b0e7-798e-4227-bf5f-d3301048a04d",
"code" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"dataOwner" : "",
"dataOwnerList" : "[\"chengzhihuadashuaib\"]",
```

```
"dataDepartment" : null,
"path" : "test_import/test_import_l2/test_import_l3/test_import_l4",
"parentId" : "1200428564969857024",
"level" : 4,
"ordinal" : 1,
"status" : "PUBLISHED",
"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "4",
"lastL2Id" : null
},
"attributes" : {
"alias" : "",
"approvalInfo" : null,
"code" : null,
"codeNum" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2024-04-08T12:27:41.000Z",
"dataDepartment" : null,
"dataOwner" : "",
"dataOwnerList" : [ "chengzhihuadashaib" ],
"description" : "",
"encoding" : null,
"fromPublic" : false,
"guid" : "8b61b0e7-798e-4227-bf5f-d3301048a04d",
"id" : "1226991880613593088",
"l1" : false,
"l2" : true,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 4,
"levelStr" : "4",
"name" : "test_import_l4",
"nameCh" : "test_import_l4",
"nameEn" : "test_import_l4",
"nameEng" : "test_import_l4",
"newBiz" : null,
"ordinal" : 1,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : "1200428564969857024",
"path" : "test_import/test_import_l2/test_import_l3/test_import_l4",
"prefix" : null,
"qualifiedName" :
"test_import.test_import_l2.test_import_l3.test_import_l4@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2024-04-08T12:27:50.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "PUBLISHED"
}],
"count" : 1,
"status" : "PUBLISHED"
}],
"count" : 1,
"status" : "PUBLISHED"
```

```
    }],
    "count" : 1,
    "status" : "PUBLISHED"
  }, {
    "id" : "1169309252771299328",
    "name" : "Urban traffic",
    "qname" : "city_traffic@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "guid" : null,
    "ordinal" : 2,
    "row" : null,
    "catalog" : {
      "versionName" : null,
      "versionTag" : null,
      "versionId" : null,
      "createBy" : "0833a573fe80d5401f6dc010a775569a",
      "updateBy" : "0833a573fe80d5401f6dc010a775569a",
      "createTime" : "2023-11-01T08:17:31.000Z",
      "updateTime" : "2023-11-01T08:17:42.000Z",
      "l3Id" : null,
      "l2Id" : null,
      "alias" : "",
      "encoding" : null,
      "prefix" : null,
      "codeNum" : null,
      "id" : "1169309252771299328",
      "nameCh" : "Urban traffic",
      "nameEn" : "city_traffic",
      "qualifiedName" : "city_traffic@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "description" : "",
      "owner" : "0833a573fe80d5401f6dc010a775569a",
      "guid" : "66d3fab6-8870-46ea-a8e3-8427c68b6f27",
      "code" : null,
      "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "selfDefinedFields" : [ ],
      "dataOwner" : "",
      "dataOwnerList" : ["test_uesr"],
      "dataDepartment" : null,
      "path" : "Urban traffic",
      "parentId" : null,
      "level" : 1,
      "ordinal" : 2,
      "status" : "PUBLISHED",
      "approvalInfo" : null,
      "newBiz" : null,
      "fromPublic" : false,
      "swapOrderId" : null,
      "levelStr" : "1",
      "lastL2Id" : null
    },
    "attributes" : {
      "alias" : "",
      "approvalInfo" : null,
      "code" : null,
      "codeNum" : null,
      "createBy" : "0833a573fe80d5401f6dc010a775569a",
      "createTime" : "2023-11-01T08:17:31.000Z",
      "dataDepartment" : null,
      "dataOwner" : "",
      "dataOwnerList" : [ "test_uesr" ],
      "description" : "",
      "encoding" : null,
      "fromPublic" : false,
      "guid" : "66d3fab6-8870-46ea-a8e3-8427c68b6f27",
      "id" : "1169309252771299328",
      "l1" : true,
      "l2" : false,
      "l2Id" : null,

```

```
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 1,
"levelStr" : "1",
"name" : "Urban traffic",
"nameCh" : "Urban traffic",
"nameEn" : "city_traffic",
"nameEng" : "city_traffic",
"newBiz" : null,
"ordinal" : 2,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : null,
"path" : "Urban traffic",
"prefix" : null,
"qualifiedName" : "city_traffic@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2023-11-01T08:17:42.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ {
  "id" : "1169309374670356480",
  "name" : "Trip Record",
  "qname" : "city_traffic.stroke_reminder@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "guid" : null,
  "ordinal" : 1,
  "row" : null,
  "catalog" : {
    "versionName" : null,
    "versionTag" : null,
    "versionId" : null,
    "createBy" : "0833a573fe80d5401f6dc010a775569a",
    "updateBy" : "0833a573fe80d5401f6dc010a775569a",
    "createTime" : "2023-11-01T08:18:00.000Z",
    "updateTime" : "2023-11-01T08:18:56.000Z",
    "l3Id" : null,
    "l2Id" : null,
    "alias" : "",
    "encoding" : null,
    "prefix" : null,
    "codeNum" : null,
    "id" : "1169309374670356480",
    "nameCh" : "Trip Record",
    "nameEn" : "stroke_reminder",
    "qualifiedName" : "city_traffic.stroke_reminder@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "description" : "",
    "owner" : "0833a573fe80d5401f6dc010a775569a",
    "guid" : "38b518d3-fe05-4a6a-a60a-db5cd8b3c5fa",
    "code" : null,
    "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "selfDefinedFields" : [ ],
    "dataOwner" : "",
    "dataOwnerList" : "[\"test_uesr\"]",
    "dataDepartment" : null,
    "path" : "Urban traffic/trip records",
    "parentId" : "1169309252771299328",
    "level" : 2,
    "ordinal" : 1,
    "status" : "PUBLISHED",
    "approvalInfo" : null,
```



```
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "2",
"lastL2Id" : null
},
"attributes" : {
  "alias" : "",
  "approvalInfo" : null,
  "code" : null,
  "codeNum" : null,
  "createBy" : "0833a573fe80d5401f6dc010a775569a",
  "createTime" : "2023-11-01T08:18:00.000Z",
  "dataDepartment" : null,
  "dataOwner" : "",
  "dataOwnerList" : [ "test_uesr" ],
  "description" : "",
  "encoding" : null,
  "fromPublic" : false,
  "guid" : "38b518d3-fe05-4a6a-a60a-db5cd8b3c5fa",
  "id" : "1169309374670356480",
  "l1" : false,
  "l2" : true,
  "l2Id" : null,
  "l3" : false,
  "l3Id" : null,
  "lastL2Id" : null,
  "level" : 2,
  "levelStr" : "2",
  "name" : "Trip Record",
  "nameCh" : "Trip Record",
  "nameEn" : "stroke_reminder",
  "nameEng" : "stroke_reminder",
  "newBiz" : null,
  "ordinal" : 1,
  "owner" : "0833a573fe80d5401f6dc010a775569a",
  "parentId" : "1169309252771299328",
  "path" : "Urban traffic/trip records",
  "prefix" : null,
  "qualifiedName" : "city_traffic.stroke_reminder@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "selfDefinedFields" : [ ],
  "status" : "PUBLISHED",
  "swapOrderId" : null,
  "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "updateBy" : "0833a573fe80d5401f6dc010a775569a",
  "updateTime" : "2023-11-01T08:18:56.000Z",
  "versionId" : null,
  "versionName" : null,
  "versionTag" : null
},
"childs" : [ {
  "id" : "1169309823469330432",
  "name" : "Original Record",
  "qname" : "city_traffic.stroke_reminder.origin_stroke@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "guid" : null,
  "ordinal" : 1,
  "row" : null,
  "catalog" : {
    "versionName" : null,
    "versionTag" : null,
    "versionId" : null,
    "createBy" : "0833a573fe80d5401f6dc010a775569a",
    "updateBy" : "0833a573fe80d5401f6dc010a775569a",
    "createTime" : "2023-11-01T08:19:47.000Z",
    "updateTime" : "2023-11-01T08:23:18.000Z",
    "l3Id" : null,
    "l2Id" : null,
```

```
"alias" : "",
"encoding" : null,
"prefix" : null,
"codeNum" : null,
"id" : "1169309823469330432",
"nameCh" : "Original Record",
"nameEn" : "origin_stroke",
"qualifiedName" :
"city_traffic.stroke_reminder.origin_stroke@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "None",
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"dataDepartment" : null,
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"level" : 3,
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"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "3",
"lastL2Id" : null
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    "versionName": null,
    "versionTag": null
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}, {
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    "fromPublic": false,
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"l3Id": null,
"l2Id": null,
"alias": "",
"encoding": null,
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"codeNum": null,
"id": "1169310587398889472",
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"nameEn": "stroke_fact",
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    "fromPublic" : false,
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    "l3Id" : null,
    "lastL2Id" : null,
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    "nameEng" : "stroke_fact",
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    "updateBy" : "0833a573fe80d5401f6dc010a775569a",
    "updateTime" : "2023-11-01T08:23:20.000Z",
    "versionId" : null,
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    "versionTag" : null
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  "childs" : [ ],
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  "row" : null,
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    "updateTime" : "2023-11-01T08:23:20.000Z",
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    "l2Id" : null,
    "alias" : "",
    "encoding" : null,
    "prefix" : null,
    "codeNum" : null,
    "id" : "1169310688582279168",
    "nameCh" : "stroke_statistic",
    "nameEn" : "stroke_statistic",
    "qualifiedName" :
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    "dataOwnerList" : ["test_uesr"],
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    "level" : 3,
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    "newBiz" : null,
    "fromPublic" : false,
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    "dataOwnerList" : [ "test_uesr" ],
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"l2" : true,
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"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 3,
"levelStr" : "3",
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"nameCh" : "stroke_statistic",
"nameEn" : "stroke_statistic",
"nameEng" : "stroke_statistic",
"newBiz" : null,
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"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2023-11-01T08:23:20.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
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"count" : 0,
"status" : "PUBLISHED"
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"codeNum" : null,
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"description" : ""
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"owner": "0833a573fe80d5401f6dc010a775569a",
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"code": null,
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"selfDefinedFields": [ ],
"dataOwner": "",
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"level": 2,
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"status": "PUBLISHED",
"approvalInfo": null,
"newBiz": null,
"fromPublic": false,
"swapOrderId": null,
"levelStr": "2",
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  "code": null,
  "codeNum": null,
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  "l2Id": null,
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  "nameEn": "people",
  "nameEng": "people",
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"childs": [ {
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  "name": "Suppliers",
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    "createTime" : "2023-11-01T08:23:50.000Z",
    "updateTime" : "2023-11-01T08:25:01.000Z",
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    "l2Id" : null,
    "alias" : "",
    "encoding" : null,
    "prefix" : null,
    "codeNum" : null,
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    "nameEn" : "vendor",
    "qualifiedName" : "city_traffic.people.vendor@Business.0833a5737480d53b2f25c010dc1a7b88-
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    "newBiz" : null,
    "fromPublic" : false,
    "swapOrderId" : null,
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    "code" : null,
    "codeNum" : null,
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    "encoding" : null,
    "fromPublic" : false,
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    "id" : "1169310842425155584",
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    "l2" : true,
    "l2Id" : null,
    "l3" : false,
    "l3Id" : null,
    "lastL2Id" : null,
    "level" : 3,
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    "name" : "Suppliers",
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```
"nameCh" : "Suppliers",
"nameEn" : "vendor",
"nameEng" : "vendor",
"newBiz" : null,
"ordinal" : 1,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : "1169309441888272384",
"path" : "Urban transportation/Group/Supplier",
"prefix" : null,
"qualifiedName" : "city_traffic.people.vendor@Business.0833a5737480d53b2f25c010dc1a7b88-
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"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-
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"updateTime" : "2023-11-01T08:25:01.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "PUBLISHED"
}],
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"status" : "PUBLISHED"
}, {
"id" : "1169309513090834432",
"name" : "time_location",
"qname" : "city_traffic.time_location@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"guid" : null,
"ordinal" : 3,
"row" : null,
"catalog" : {
"versionName" : null,
"versionTag" : null,
"versionId" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2023-11-01T08:18:33.000Z",
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"l3Id" : null,
"l2Id" : null,
"alias" : "",
"encoding" : null,
"prefix" : null,
"codeNum" : null,
"id" : "1169309513090834432",
"nameCh" : "time_location",
"nameEn" : "time_location",
"qualifiedName" : "city_traffic.time_location@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "",
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"guid" : "5025be1c-b217-4d4e-8927-78f2acd1700f",
"code" : null,
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"selfDefinedFields" : [ ],
"dataOwner" : "",
"dataOwnerList" : "[\"test_uesr\"]",
"dataDepartment" : null,
"path" : "Urban transportation/time and space",
"parentId" : "1169309252771299328",
"level" : 2,
"ordinal" : 3,
"status" : "PUBLISHED",
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"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "2",
"lastL2Id" : null
},
"attributes" : {
  "alias" : "",
  "approvalInfo" : null,
  "code" : null,
  "codeNum" : null,
  "createBy" : "0833a573fe80d5401f6dc010a775569a",
  "createTime" : "2023-11-01T08:18:33.000Z",
  "dataDepartment" : null,
  "dataOwner" : "",
  "dataOwnerList" : [ "test_uesr" ],
  "description" : "",
  "encoding" : null,
  "fromPublic" : false,
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  "id" : "1169309513090834432",
  "l1" : false,
  "l2" : true,
  "l2Id" : null,
  "l3" : false,
  "l3Id" : null,
  "lastL2Id" : null,
  "level" : 2,
  "levelStr" : "2",
  "name" : "time_location",
  "nameCh" : "time_location",
  "nameEn" : "time_location",
  "nameEng" : "time_location",
  "newBiz" : null,
  "ordinal" : 3,
  "owner" : "0833a573fe80d5401f6dc010a775569a",
  "parentId" : "1169309252771299328",
  "path" : "Urban transportation/time and space",
  "prefix" : null,
  "qualifiedName" : "city_traffic.time_location@Business.0833a5737480d53b2f25c010dc1a7b88-
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  "status" : "PUBLISHED",
  "swapOrderId" : null,
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  "updateBy" : "0833a573fe80d5401f6dc010a775569a",
  "updateTime" : "2023-11-01T08:18:57.000Z",
  "versionId" : null,
  "versionName" : null,
  "versionTag" : null
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"childs" : [ {
  "id" : "1169310937660964864",
  "name" : "Time",
  "qname" : "city_traffic.time_location.date@Business.0833a5737480d53b2f25c010dc1a7b88-
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  "guid" : null,
  "ordinal" : 1,
  "row" : null,
  "catalog" : {
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    "versionTag" : null,
    "versionId" : null,
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    "updateBy" : "0833a573fe80d5401f6dc010a775569a",
    "createTime" : "2023-11-01T08:24:12.000Z",
    "updateTime" : "2023-11-01T08:25:12.000Z",
    "l3Id" : null,
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"l2Id" : null,
"alias" : "",
"encoding" : null,
"prefix" : null,
"codeNum" : null,
"id" : "1169310937660964864",
"nameCh" : "Time",
"nameEn" : "date",
"qualifiedName" : "city_traffic.time_location.date@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "None",
"owner" : "0833a573fe80d5401f6dc010a775569a",
"guid" : "b3a35c3a-87c6-4316-ac84-76fa848f5ce6",
"code" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"dataOwner" : "test_uesr",
"dataOwnerList" : ["test_uesr"],
"dataDepartment" : null,
"path" : "Urban transportation/time and space/time",
"parentId" : "1169309513090834432",
"level" : 3,
"ordinal" : 1,
"status" : "PUBLISHED",
"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "3",
"lastL2Id" : null
},
"attributes" : {
"alias" : "",
"approvalInfo" : null,
"code" : null,
"codeNum" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2023-11-01T08:24:12.000Z",
"dataDepartment" : null,
"dataOwner" : "test_uesr",
"dataOwnerList" : [ "test_uesr" ],
"description" : "None",
"encoding" : null,
"fromPublic" : false,
"guid" : "b3a35c3a-87c6-4316-ac84-76fa848f5ce6",
"id" : "1169310937660964864",
"l1" : false,
"l2" : true,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 3,
"levelStr" : "3",
"name" : "Time",
"nameCh" : "Time",
"nameEn" : "date",
"nameEng" : "date",
"newBiz" : null,
"ordinal" : 1,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : "1169309513090834432",
"path" : "Urban transportation/time and space/time",
"prefix" : null,
"qualifiedName" : "city_traffic.time_location.date@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
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    "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-
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    "updateBy" : "0833a573fe80d5401f6dc010a775569a",
    "updateTime" : "2023-11-01T08:25:12.000Z",
    "versionId" : null,
    "versionName" : null,
    "versionTag" : null
  },
  "childs" : [ ],
  "count" : 0,
  "status" : "PUBLISHED"
} ],
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"status" : "PUBLISHED"
}, {
  "id" : "1169309574931652608",
  "name" : "public_dimension",
  "qname" : "city_traffic.public_dimension@Business.0833a5737480d53b2f25c010dc1a7b88-
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  "ordinal" : 4,
  "row" : null,
  "catalog" : {
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    "versionTag" : null,
    "versionId" : null,
    "createBy" : "0833a573fe80d5401f6dc010a775569a",
    "updateBy" : "0833a573fe80d5401f6dc010a775569a",
    "createTime" : "2023-11-01T08:18:47.000Z",
    "updateTime" : "2023-11-01T08:18:58.000Z",
    "l3Id" : null,
    "l2Id" : null,
    "alias" : "",
    "encoding" : null,
    "prefix" : null,
    "codeNum" : null,
    "id" : "1169309574931652608",
    "nameCh" : "public_dimension",
    "nameEn" : "public_dimension",
    "qualifiedName" : "city_traffic.public_dimension@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "description" : "",
    "owner" : "0833a573fe80d5401f6dc010a775569a",
    "guid" : "7f1038f1-66c7-4002-b53e-f9dcf429dfd9",
    "code" : null,
    "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "selfDefinedFields" : [ ],
    "dataOwner" : "",
    "dataOwnerList" : "[\"test_uesr\"]",
    "dataDepartment" : null,
    "path" : "Urban transportation/public dimension",
    "parentId" : "1169309252771299328",
    "level" : 2,
    "ordinal" : 4,
    "status" : "PUBLISHED",
    "approvalInfo" : null,
    "newBiz" : null,
    "fromPublic" : false,
    "swapOrderId" : null,
    "levelStr" : "2",
    "lastL2Id" : null
  },
  "attributes" : {
    "alias" : "",
    "approvalInfo" : null,
    "code" : null,
    "codeNum" : null,
    "createBy" : "0833a573fe80d5401f6dc010a775569a",
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"createTime": "2023-11-01T08:18:47.000Z",
"dataDepartment": null,
"dataOwner": "",
"dataOwnerList": [ "test_uesr" ],
"description": "",
"encoding": null,
"fromPublic": false,
"guid": "7f1038f1-66c7-4002-b53e-f9dcf429fdf9",
"id": "1169309574931652608",
"l1": false,
"l2": true,
"l2Id": null,
"l3": false,
"l3Id": null,
"lastL2Id": null,
"level": 2,
"levelStr": "2",
"name": "public_dimension",
"nameCh": "public_dimension",
"nameEn": "public_dimension",
"nameEng": "public_dimension",
"newBiz": null,
"ordinal": 4,
"owner": "0833a573fe80d5401f6dc010a775569a",
"parentId": "1169309252771299328",
"path": "Urban transportation/public dimension",
"prefix": null,
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"selfDefinedFields": [ ],
"status": "PUBLISHED",
"swapOrderId": null,
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"updateBy": "0833a573fe80d5401f6dc010a775569a",
"updateTime": "2023-11-01T08:18:58.000Z",
"versionId": null,
"versionName": null,
"versionTag": null
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"childs": [ {
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  "name": "public_dimension",
  "qname":
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workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "guid": null,
  "ordinal": 1,
  "row": null,
  "catalog": {
    "versionName": null,
    "versionTag": null,
    "versionId": null,
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    "updateBy": "0833a573fe80d5401f6dc010a775569a",
    "createTime": "2023-11-01T08:24:40.000Z",
    "updateTime": "2023-11-01T08:25:22.000Z",
    "l3Id": null,
    "l2Id": null,
    "alias": "",
    "encoding": null,
    "prefix": null,
    "codeNum": null,
    "id": "1169311054568800256",
    "nameCh": "public_dimension",
    "nameEn": "public_dimension",
    "qualifiedName":
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workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "description": "None",
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"owner" : "0833a573fe80d5401f6dc010a775569a",
"guid" : "eb7d8e4f-1a0d-4a59-9842-429af5efef48",
"code" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"dataOwner" : "test_uesr",
"dataOwnerList" : ["test_uesr"],
"dataDepartment" : null,
"path" : "Urban transportation/Public dimension/Public dimension",
"parentId" : "1169309574931652608",
"level" : 3,
"ordinal" : 1,
"status" : "PUBLISHED",
"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "3",
"lastL2Id" : null
},
"attributes" : {
"alias" : "",
"approvalInfo" : null,
"code" : null,
"codeNum" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2023-11-01T08:24:40.000Z",
"dataDepartment" : null,
"dataOwner" : "test_uesr",
"dataOwnerList" : [ "test_uesr" ],
"description" : "None",
"encoding" : null,
"fromPublic" : false,
"guid" : "eb7d8e4f-1a0d-4a59-9842-429af5efef48",
"id" : "1169311054568800256",
"l1" : false,
"l2" : true,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 3,
"levelStr" : "3",
"name" : "public_dimension",
"nameCh" : "public_dimension",
"nameEn" : "public_dimension",
"nameEng" : "public_dimension",
"newBiz" : null,
"ordinal" : 1,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : "1169309574931652608",
"path" : "Urban transportation/Public dimension/Public dimension",
"prefix" : null,
"qualifiedName" :
"city_traffic.public_dimension.public_dimension@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2023-11-01T08:25:22.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
```

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    "count" : 0,
    "status" : "PUBLISHED"
  } ],
  "count" : 1,
  "status" : "PUBLISHED"
} ],
"count" : 4,
"status" : "PUBLISHED"
}, {
  "id" : "1170064658061799424",
  "name" : "Email Title",
  "qname" : "test_subject@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "guid" : null,
  "ordinal" : 3,
  "row" : null,
  "catalog" : {
    "versionName" : null,
    "versionTag" : null,
    "versionId" : null,
    "createBy" : "0833a573fe80d5401f6dc010a775569a",
    "updateBy" : "0833a573fe80d5401f6dc010a775569a",
    "createTime" : "2023-11-03T10:19:13.000Z",
    "updateTime" : "2023-11-03T10:28:07.000Z",
    "l3Id" : null,
    "l2Id" : null,
    "alias" : "",
    "encoding" : null,
    "prefix" : null,
    "codeNum" : null,
    "id" : "1170064658061799424",
    "nameCh" : "Email Title",
    "nameEn" : "test_subject",
    "qualifiedName" : "test_subject@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "description" : "",
    "owner" : "0833a573fe80d5401f6dc010a775569a",
    "guid" : "8c930e34-0003-4999-ab79-66374435d980",
    "code" : null,
    "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "selfDefinedFields" : [ ],
    "dataOwner" : "",
    "dataOwnerList" : ["test_uesr\"],
    "dataDepartment" : null,
    "path" : "Email Title",
    "parentId" : null,
    "level" : 1,
    "ordinal" : 3,
    "status" : "PUBLISHED",
    "approvalInfo" : null,
    "newBiz" : null,
    "fromPublic" : false,
    "swapOrderId" : null,
    "levelStr" : "1",
    "lastL2Id" : null
  },
  "attributes" : {
    "alias" : "",
    "approvalInfo" : null,
    "code" : null,
    "codeNum" : null,
    "createBy" : "0833a573fe80d5401f6dc010a775569a",
    "createTime" : "2023-11-03T10:19:13.000Z",
    "dataDepartment" : null,
    "dataOwner" : "",
    "dataOwnerList" : [ "test_uesr" ],
    "description" : "",
    "encoding" : null,
    "fromPublic" : false,
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"guid" : "8c930e34-0003-4999-ab79-66374435d980",
"id" : "1170064658061799424",
"l1" : true,
"l2" : false,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 1,
"levelStr" : "1",
"name" : "Email Title",
"nameCh" : "Email Title",
"nameEn" : "test_subject",
"nameEng" : "test_subject",
"newBiz" : null,
"ordinal" : 3,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : null,
"path" : "Email Title",
"prefix" : null,
"qualifiedName" : "test_subject@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2023-11-03T10:28:07.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "PUBLISHED"
}, {
"id" : "1170066794946420736",
"name" : "test_001",
"qname" : "test_czh.BO000000@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"guid" : null,
"ordinal" : 4,
"row" : null,
"catalog" : {
"versionName" : null,
"versionTag" : null,
"versionId" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2023-11-03T10:27:43.000Z",
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"l3Id" : null,
"l2Id" : null,
"alias" : "",
"encoding" : null,
"prefix" : null,
"codeNum" : null,
"id" : "1170066794946420736",
"nameCh" : "test_001",
"nameEn" : "BO000000",
"qualifiedName" : "test_czh.BO000000@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "None",
"owner" : "0833a573fe80d5401f6dc010a775569a",
"guid" : "99e0ec15-8fc0-4617-b867-e17a0b4a2509",
"code" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"dataOwner" : "1",
```

```
"dataOwnerList" : [{"test_uesr\"}],
"dataDepartment" : null,
"path" : "test_001",
"parentId" : null,
"level" : 1,
"ordinal" : 4,
"status" : "PUBLISHED",
"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "1",
"lastL2Id" : null
},
"attributes" : {
"alias" : "",
"approvalInfo" : null,
"code" : null,
"codeNum" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2023-11-03T10:27:43.000Z",
"dataDepartment" : null,
"dataOwner" : "1",
"dataOwnerList" : [ "test_uesr" ],
"description" : "None",
"encoding" : null,
"fromPublic" : false,
"guid" : "99e0ec15-8fc0-4617-b867-e17a0b4a2509",
"id" : "1170066794946420736",
"l1" : true,
"l2" : false,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 1,
"levelStr" : "1",
"name" : "test_001",
"nameCh" : "test_001",
"nameEn" : "BO000000",
"nameEng" : "BO000000",
"newBiz" : null,
"ordinal" : 4,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : null,
"path" : "test_001",
"prefix" : null,
"qualifiedName" : "test_czh.BO000000@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2023-11-03T10:29:02.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "PUBLISHED"
}, {
"id" : "1178033294286176256",
"name" : "My Tests",
"qname" : "MY_000001@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"guid" : null,
"ordinal" : 5,
```

```
"row" : null,
"catalog" : {
  "versionName" : null,
  "versionTag" : null,
  "versionId" : null,
  "createBy" : "0833a573fe80d5401f6dc010a775569a",
  "updateBy" : "0833a573fe80d5401f6dc010a775569a",
  "createTime" : "2023-11-25T10:03:44.000Z",
  "updateTime" : "2023-11-30T08:07:34.000Z",
  "l3Id" : null,
  "l2Id" : null,
  "alias" : "",
  "encoding" : null,
  "prefix" : null,
  "codeNum" : null,
  "id" : "1178033294286176256",
  "nameCh" : "My Tests",
  "nameEn" : "MY_000001",
  "qualifiedName" : "MY_000001@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "description" : "",
  "owner" : "0833a573fe80d5401f6dc010a775569a",
  "guid" : "263b2018-c360-4718-9150-3f1fc67bb97e",
  "code" : null,
  "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "selfDefinedFields" : [ ],
  "dataOwner" : "",
  "dataOwnerList" : ["test_uesr"],
  "dataDepartment" : null,
  "path" : "My Tests",
  "parentId" : null,
  "level" : 1,
  "ordinal" : 5,
  "status" : "PUBLISHED",
  "approvalInfo" : null,
  "newBiz" : null,
  "fromPublic" : false,
  "swapOrderId" : null,
  "levelStr" : "1",
  "lastL2Id" : null
},
"attributes" : {
  "alias" : "",
  "approvalInfo" : null,
  "code" : null,
  "codeNum" : null,
  "createBy" : "0833a573fe80d5401f6dc010a775569a",
  "createTime" : "2023-11-25T10:03:44.000Z",
  "dataDepartment" : null,
  "dataOwner" : "",
  "dataOwnerList" : [ "test_uesr" ],
  "description" : "",
  "encoding" : null,
  "fromPublic" : false,
  "guid" : "263b2018-c360-4718-9150-3f1fc67bb97e",
  "id" : "1178033294286176256",
  "l1" : true,
  "l2" : false,
  "l2Id" : null,
  "l3" : false,
  "l3Id" : null,
  "lastL2Id" : null,
  "level" : 1,
  "levelStr" : "1",
  "name" : "My Tests",
  "nameCh" : "My Tests",
  "nameEn" : "MY_000001",
  "nameEng" : "MY_000001",
  "newBiz" : null,
```

```
"ordinal" : 5,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : null,
"path" : "My Tests",
"prefix" : null,
"qualifiedName" : "MY_000001@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2023-11-30T08:07:34.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "PUBLISHED"
}, {
"id" : "1170064724101115904",
"name" : "test_czh2",
"qname" : "test_czh@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"guid" : null,
"ordinal" : 6,
"row" : null,
"catalog" : {
"versionName" : null,
"versionTag" : null,
"versionId" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2023-11-03T10:19:29.000Z",
"updateTime" : "2024-02-22T09:21:33.000Z",
"l3Id" : null,
"l2Id" : null,
"alias" : "",
"encoding" : null,
"prefix" : null,
"codeNum" : null,
"id" : "1170064724101115904",
"nameCh" : "test_czh2",
"nameEn" : "test_czh",
"qualifiedName" : "test_czh@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "",
"owner" : "0833a573fe80d5401f6dc010a775569a",
"guid" : "0941628c-af28-4f82-9bdd-2f101ca70f3a",
"code" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"dataOwner" : "",
"dataOwnerList" : "[\"test_ues\"]",
"dataDepartment" : null,
"path" : "test_czh2",
"parentId" : null,
"level" : 1,
"ordinal" : 6,
"status" : "PUBLISHED",
"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "1",
"lastL2Id" : null
},
"attributes" : {
```

```
"alias" : "",
"approvalInfo" : null,
"code" : null,
"codeNum" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2023-11-03T10:19:29.000Z",
"dataDepartment" : null,
"dataOwner" : "",
"dataOwnerList" : [ "test_uesr" ],
"description" : "",
"encoding" : null,
"fromPublic" : false,
"guid" : "0941628c-af28-4f82-9bdd-2f101ca70f3a",
"id" : "1170064724101115904",
"l1" : true,
"l2" : false,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 1,
"levelStr" : "1",
"name" : "test_czh2",
"nameCh" : "test_czh2",
"nameEn" : "test_czh",
"nameEng" : "test_czh",
"newBiz" : null,
"ordinal" : 6,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : null,
"path" : "test_czh2",
"prefix" : null,
"qualifiedName" : "test_czh@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2024-02-22T09:21:33.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "PUBLISHED"
}, {
"id" : "1193143623198326784",
"name" : "test_import_l2",
"qname" : "test_import_l2@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"guid" : null,
"ordinal" : 7,
"row" : null,
"catalog" : {
"versionName" : null,
"versionTag" : null,
"versionId" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2024-01-06T02:46:47.000Z",
"updateTime" : "2024-01-26T03:17:43.000Z",
"l3Id" : null,
"l2Id" : null,
"alias" : null,
"encoding" : null,
"prefix" : null,
"codeNum" : null,
```

```
"id" : "1193143623198326784",
"nameCh" : "test_import_l2",
"nameEn" : "test_import_l2",
"qualifiedName" : "test_import_l2@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "ssss",
"owner" : "0833a573fe80d5401f6dc010a775569a",
"guid" : "800a4e28-db08-434d-8f44-877902f2eb55",
"code" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : null,
"dataOwner" : "ssss",
"dataOwnerList" : ["test_uesr"],
"dataDepartment" : null,
"path" : "test_import_l2",
"parentId" : null,
"level" : 1,
"ordinal" : 7,
"status" : "PUBLISHED",
"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "1",
"lastL2Id" : null
},
"attributes" : {
"alias" : null,
"approvalInfo" : null,
"code" : null,
"codeNum" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2024-01-06T02:46:47.000Z",
"dataDepartment" : null,
"dataOwner" : "ssss",
"dataOwnerList" : [ "test_uesr" ],
"description" : "ssss",
"encoding" : null,
"fromPublic" : false,
"guid" : "800a4e28-db08-434d-8f44-877902f2eb55",
"id" : "1193143623198326784",
"l1" : true,
"l2" : false,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 1,
"levelStr" : "1",
"name" : "test_import_l2",
"nameCh" : "test_import_l2",
"nameEn" : "test_import_l2",
"nameEng" : "test_import_l2",
"newBiz" : null,
"ordinal" : 7,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : null,
"path" : "test_import_l2",
"prefix" : null,
"qualifiedName" : "test_import_l2@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : null,
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2024-01-26T03:17:43.000Z",
"versionId" : null,
"versionName" : null,
```

```
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "PUBLISHED"
}, {
  "id" : "1193879014310322176",
  "name" : "test_not_publish",
  "qname" : "test_not_publish@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
  "guid" : null,
  "ordinal" : 8,
  "row" : null,
  "catalog" : {
    "versionName" : null,
    "versionTag" : null,
    "versionId" : null,
    "createBy" : "0833a573fe80d5401f6dc010a775569a",
    "updateBy" : "0833a573fe80d5401f6dc010a775569a",
    "createTime" : "2024-01-08T03:28:58.000Z",
    "updateTime" : "2024-01-08T08:50:51.000Z",
    "l3Id" : null,
    "l2Id" : null,
    "alias" : "",
    "encoding" : null,
    "prefix" : null,
    "codeNum" : null,
    "id" : "1193879014310322176",
    "nameCh" : "test_not_publish",
    "nameEn" : "test_not_publish",
    "qualifiedName" : "test_not_publish@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "description" : "",
    "owner" : "0833a573fe80d5401f6dc010a775569a",
    "guid" : "df26f160-0692-42dd-95b4-e66fcadca759",
    "code" : null,
    "tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
    "selfDefinedFields" : [ ],
    "dataOwner" : "",
    "dataOwnerList" : ["test_uesr"],
    "dataDepartment" : null,
    "path" : "test_not_publish",
    "parentId" : null,
    "level" : 1,
    "ordinal" : 8,
    "status" : "PUBLISHED",
    "approvalInfo" : null,
    "newBiz" : null,
    "fromPublic" : false,
    "swapOrderId" : null,
    "levelStr" : "1",
    "lastL2Id" : null
  },
  "attributes" : {
    "alias" : "",
    "approvalInfo" : null,
    "code" : null,
    "codeNum" : null,
    "createBy" : "0833a573fe80d5401f6dc010a775569a",
    "createTime" : "2024-01-08T03:28:58.000Z",
    "dataDepartment" : null,
    "dataOwner" : "",
    "dataOwnerList" : [ "test_uesr" ],
    "description" : "",
    "encoding" : null,
    "fromPublic" : false,
    "guid" : "df26f160-0692-42dd-95b4-e66fcadca759",
    "id" : "1193879014310322176",
    "l1" : true,
```

```
"l2" : false,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 1,
"levelStr" : "1",
"name" : "test_not_publish",
"nameCh" : "test_not_publish",
"nameEn" : "test_not_publish",
"nameEng" : "test_not_publish",
"newBiz" : null,
"ordinal" : 8,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : null,
"path" : "test_not_publish",
"prefix" : null,
"qualifiedName" : "test_not_publish@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2024-01-08T08:50:51.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "PUBLISHED"
}, {
"id" : "1194966710038474752",
"name" : "test_czh_catalog",
"qname" : "test_czh_catalog@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"guid" : null,
"ordinal" : 9,
"row" : null,
"catalog" : {
"versionName" : null,
"versionTag" : null,
"versionId" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2024-01-11T03:31:05.000Z",
"updateTime" : "2024-01-11T03:31:41.000Z",
"l3Id" : null,
"l2Id" : null,
"alias" : "",
"encoding" : null,
"prefix" : null,
"codeNum" : null,
"id" : "1194966710038474752",
"nameCh" : "test_czh_catalog",
"nameEn" : "test_czh_catalog",
"qualifiedName" : "test_czh_catalog@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "",
"owner" : "0833a573fe80d5401f6dc010a775569a",
"guid" : "7d527cb2-9c9b-4a37-8785-04e836095cb1",
"code" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"dataOwner" : "",
"dataOwnerList" : ["test_ues"],
"dataDepartment" : null,
"path" : "test_czh_catalog",
```



```
"parentId" : null,
"level" : 1,
"ordinal" : 9,
"status" : "PUBLISHED",
"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "1",
"lastL2Id" : null
},
"attributes" : {
"alias" : "",
"approvalInfo" : null,
"code" : null,
"codeNum" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2024-01-11T03:31:05.000Z",
"dataDepartment" : null,
"dataOwner" : "",
"dataOwnerList" : [ "test_uesr" ],
"description" : "",
"encoding" : null,
"fromPublic" : false,
"guid" : "7d527cb2-9c9b-4a37-8785-04e836095cb1",
"id" : "1194966710038474752",
"l1" : true,
"l2" : false,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 1,
"levelStr" : "1",
"name" : "test_czh_catalog",
"nameCh" : "test_czh_catalog",
"nameEn" : "test_czh_catalog",
"nameEng" : "test_czh_catalog",
"newBiz" : null,
"ordinal" : 9,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : null,
"path" : "test_czh_catalog",
"prefix" : null,
"qualifiedName" : "test_czh_catalog@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "PUBLISHED",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2024-01-11T03:31:41.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "PUBLISHED"
}, {
"id" : "1231174343611035648",
"name" : "test_update_catalog",
"qname" : "test_create_catalog@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"guid" : null,
"ordinal" : 10,
"row" : null,
"catalog" : {
"versionName" : null,
```

```
"versionTag" : null,
"versionId" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2024-04-20T01:27:18.000Z",
"updateTime" : "2024-04-20T02:09:55.000Z",
"l3Id" : null,
"l2Id" : null,
"alias" : "",
"encoding" : null,
"prefix" : null,
"codeNum" : null,
"id" : "1231174343611035648",
"nameCh" : "test_update_catalog",
"nameEn" : "test_create_catalog",
"qualifiedName" : "test_create_catalog@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"description" : "this is a update demo.",
"owner" : "0833a573fe80d5401f6dc010a775569a",
"guid" : null,
"code" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"dataOwner" : "dataOwner",
"dataOwnerList" : ["test_uesr"],
"dataDepartment" : null,
"path" : "test_update_catalog",
"parentId" : null,
"level" : 1,
"ordinal" : 10,
"status" : "DRAFT",
"approvalInfo" : null,
"newBiz" : null,
"fromPublic" : false,
"swapOrderId" : null,
"levelStr" : "1",
"lastL2Id" : null
},
"attributes" : {
"alias" : "",
"approvalInfo" : null,
"code" : null,
"codeNum" : null,
"createBy" : "0833a573fe80d5401f6dc010a775569a",
"createTime" : "2024-04-20T01:27:18.000Z",
"dataDepartment" : null,
"dataOwner" : "dataOwner",
"dataOwnerList" : [ "test_uesr" ],
"description" : "this is a update demo.",
"encoding" : null,
"fromPublic" : false,
"guid" : null,
"id" : "1231174343611035648",
"l1" : true,
"l2" : false,
"l2Id" : null,
"l3" : false,
"l3Id" : null,
"lastL2Id" : null,
"level" : 1,
"levelStr" : "1",
"name" : "test_update_catalog",
"nameCh" : "test_update_catalog",
"nameEn" : "test_create_catalog",
"nameEng" : "test_create_catalog",
"newBiz" : null,
"ordinal" : 10,
"owner" : "0833a573fe80d5401f6dc010a775569a",
"parentId" : null,
```

```
"path" : "test_update_catalog",
"prefix" : null,
"qualifiedName" : "test_create_catalog@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"selfDefinedFields" : [ ],
"status" : "DRAFT",
"swapOrderId" : null,
"tenantId" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
"updateBy" : "0833a573fe80d5401f6dc010a775569a",
"updateTime" : "2024-04-20T02:09:55.000Z",
"versionId" : null,
"versionName" : null,
"versionTag" : null
},
"childs" : [ ],
"count" : 0,
"status" : "DRAFT"
}]
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListBusinessSolution {
```

```
public static void main(String[] args) {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    // environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running
    // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    String ak = System.getenv("CLOUD_SDK_AK");
    String sk = System.getenv("CLOUD_SDK_SK");
    String projectId = "{project_id}";

    ICredential auth = new BasicCredentials()
        .withProjectId(projectId)
        .withAk(ak)
        .withSk(sk);

    DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
        .withCredential(auth)
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
    ListBusinessRequest request = new ListBusinessRequest();
    try {
        ListBusinessResponse response = client.listBusiness(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListBusinessRequest()
        response = client.list_business(request)
        print(response)
    except exceptions.ClientRequestException as e:
```

```
print(e.status_code)
print(e.request_id)
print(e.error_code)
print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListBusinessRequest{}
    response, err := client.ListBusiness(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is all L1, L2, and L3 entities.
400	BadRequest
401	Unauthorized

Status Code	Description
403	Forbidden

7.8.6 Find Topic List (New)

Function

Search for a topic (new).

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/design/subjects

Table 7-410 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-411 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
owner	No	String	Query by owner.

Parameter	Mandatory	Type	Description
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be approved • PUBLISHED: released • OFFLINE_DEVELOPING: to be approved • OFFLINE: offline • REJECT: rejected
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Parameter	Mandatory	Type	Description
parent_id	No	String	Parent category ID. The root category does not have this ID. If this parameter is left empty, all categories are displayed. The value -1 indicates a category under the root category. ID string

Request Parameters

Table 7-412 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-413 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-414 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-415 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of CatalogVO objects	CatalogVO information.

Table 7-416 CatalogVO

Parameter	Type	Description
name_ch	String	Chinese name
name_en	String	English name.
description	String	Description
qualified_name	String	File name extension.
guid	String	GUID, which is automatically generated.
code	String	Code.
alias	String	Alias

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
data_owner	String	Data owner.
data_owner_list	String	Data owner set.
data_department	String	Data domain.
path	String	Path information.
level	Integer	Level information.
ordinal	Integer	Sequence number.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID, which is a string. If no parent directory ID exists, the parent directory is the root directory.
swap_order_id	String	ID of the target node at the same layer, which is a string
id	String	Subject ID, which is a string
qualified_id	String	Authentication ID, which is automatically generated.
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
children_num	Integer	Number of subprocesses, excluding subprocesses. This parameter is not transferred from the front end.
children	Array of CatalogVO objects	Lower-level subdirectory, which is read-only.
self_defined_fields	Array of SelfDefinedField-VO objects	Customize Attribute Field:

Table 7-417 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-418 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-419 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-420** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-421** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-422** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Search for all topics.

```
GET https://{endpoint}/v2/{project_id}/design/subjects?parent_id=-1
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a CatalogVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "name_ch": "test_import",
        "name_en": "test_import",
        "description": null,
        "qualified_name": "test_import@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
        "guid": "36999ee2-80df-4cad-b5d5-10c50fbbeb401",
        "code": null,
        "status": "PUBLISHED",
        "new_biz": null,
        "alias": null,
        "data_owner": "",
        "data_owner_list": ["test_uesr"],
        "data_department": null,
        "path": "test_import",
        "level": 1,
        "ordinal": 1,
        "owner": "test_uesr",
        "parent_id": null,
        "swap_order_id": null,
        "id": "1193142949320474624",
        "qualified_id": null,
        "from_public": false,
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "create_time": "2024-01-06T10:44:07+08:00",
        "update_time": "2024-01-26T11:16:24+08:00",
        "self_defined_fields": [ ],
        "children_num": null,
        "children": null
      }
    ]
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
```



```
"error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class SearchSubjectNewSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```

```
        .build();
        SearchSubjectNewRequest request = new SearchSubjectNewRequest();
        try {
            SearchSubjectNewResponse response = client.searchSubjectNew(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchSubjectNewRequest()
        response = client.search_subject_new(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
```

```
// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.SearchSubjectNewRequest{}
response, err := client.SearchSubjectNew(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a CatalogVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.8.7 Deleting a Theme (New)

Function

Delete a theme (new).

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v3/{project_id}/design/subjects

Table 7-423 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-424 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-425 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> • PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-426 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-427 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400**Table 7-428** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-429** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-430** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-431 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Delete a theme (new).

```
DELETE https://{endpoint}/v2/{project_id}/design/subjects
```

```
{  
  "ids" : [ "1231174343611035648" ]  
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of deleted data records.

```
{  
  "value" : 1  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Delete a theme (new).

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteSubjectNewSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        DeleteSubjectNewRequest request = new DeleteSubjectNewRequest();
        IdsParam body = new IdsParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1231174343611035648");
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
            DeleteSubjectNewResponse response = client.deleteSubjectNew(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```



```
}  
}  
}
```

Python

Delete a theme (new).

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    # variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = DeleteSubjectNewRequest()  
        listIdsbody = [  
            "1231174343611035648"  
        ]  
        request.body = IdsParam(  
            ids=listIdsbody  
        )  
        response = client.delete_subject_new(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

Delete a theme (new).

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
```

```
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.DeleteSubjectNewRequest{}
var listIdsbody = []string{
    "1231174343611035648",
}
request.Body = &model.IdsParam{
    Ids: listIdsbody,
}
response, err := client.DeleteSubjectNew(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.8.8 Creating a Topic (New)

Function

Create a topic (new).

Calling Method

For details, see [Calling APIs](#).

URI

POST /v3/{project_id}/design/subjects

Table 7-432 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-433 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-434 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string. This parameter is mandatory for update and can be left empty for creation.
name_ch	Yes	String	Chinese name
name_en	Yes	String	English name.
description	No	String	Description, which is mandatory for the business object.
alias	No	String	Alias
data_owner	No	String	Data owner department.
data_owner_list	Yes	String	Data owner. Array format: ["user_1","user_2"].
level	Yes	Integer	Indicates the level. The value ranges from 1 to 7.
parent_id	No	String	Upper-layer subject ID, which is a string. This parameter is left empty for the first layer.
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item. Customized attribute of a theme.

Table 7-435 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.

Parameter	Mandatory	Type	Description
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Response Parameters

Status code: 200

Table 7-436 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-437 data

Parameter	Type	Description
value	CatalogVO object	CatalogVO information.

Table 7-438 CatalogVO

Parameter	Type	Description
name_ch	String	Chinese name
name_en	String	English name.
description	String	Description
qualified_name	String	File name extension.
guid	String	GUID, which is automatically generated.
code	String	Code.
alias	String	Alias

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
data_owner	String	Data owner.
data_owner_list	String	Data owner set.
data_department	String	Data domain.
path	String	Path information.
level	Integer	Level information.
ordinal	Integer	Sequence number.
owner	String	Owner of the instance.
parent_id	String	Parent directory ID, which is a string. If no parent directory ID exists, the parent directory is the root directory.
swap_order_id	String	ID of the target node at the same layer, which is a string
id	String	Subject ID, which is a string
qualified_id	String	Authentication ID, which is automatically generated.
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
children_num	Integer	Number of subprocesses, excluding subprocesses. This parameter is not transferred from the front end.
children	Array of CatalogVO objects	Lower-level subdirectory, which is read-only.
self_defined_fields	Array of SelfDefinedField-VO objects	Customize Attribute Field:

Table 7-439 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-440 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-441 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-442 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-443 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-444 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a topic (new).

```
POST https://{endpoint}/v2/{project_id}/design/subjects
```

```
{
  "name_ch": "test_create_catalog_demo",
  "name_en": "test_create_catalog_demo",
  "description": "this is a demo.",
  "alias": "",
  "data_owner": "",
  "data_owner_list": ["test_uesr"],
  "self_defined_fields": [ ],
  "level": 1
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is entity details.

```
{
  "data": {
    "value": {
      "name_ch": "test_create_catalog_demo",
      "name_en": "test_create_catalog_demo",
      "description": "this is a demo.",
      "qualified_name": "test_create_catalog_demo@Business.0833a5737480d53b2f25c010dc1a7b88-
workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "guid": null,
      "code": null,
      "status": "DRAFT",
      "new_biz": null,
      "alias": "",
      "data_owner": "",
      "data_owner_list": ["test_uesr"],
      "data_department": null,
      "path": "test_create_catalog_demo",
      "level": 1,
      "ordinal": 11,
      "owner": "test_uesr",
      "parent_id": null,
      "swap_order_id": null,
      "id": "1232018366517129216",
      "qualified_id": null,
      "from_public": null,
      "create_by": "test_uesr",
      "update_by": "test_uesr",
      "create_time": "2024-04-22T17:21:08.372+08:00",
      "update_time": "2024-04-22T17:21:08.372+08:00",
      "self_defined_fields": [ ],
      "children_num": null,
      "children": null
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a topic (new).

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateSubjectNewSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
```

```
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
CreateSubjectNewRequest request = new CreateSubjectNewRequest();
SubjectParamsVO body = new SubjectParamsVO();
body.withLevel(1);
body.withDataOwnerList("[\"test_uesr\"]");
body.withDataOwner("");
body.withAlias("");
body.withDescription("this is a demo.");
body.withNameEn("test_create_catalog_demo");
body.withNameCh("test_create_catalog_demo");
request.withBody(body);
try {
    CreateSubjectNewResponse response = client.createSubjectNew(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Create a topic (new).

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
```

```
request = CreateSubjectNewRequest()
request.body = SubjectParamsVO(
    level=1,
    data_owner_list=["test_uesr"],
    data_owner="",
    alias="",
    description="this is a demo.",
    name_en="test_create_catalog_demo",
    name_ch="test_create_catalog_demo"
)
response = client.create_subject_new(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Create a topic (new).

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateSubjectNewRequest{}
    dataOwnerSubjectParamsVo:= ""
    aliasSubjectParamsVo:= ""
    descriptionSubjectParamsVo:= "this is a demo."
    request.Body = &model.SubjectParamsVo{
        Level: int32(1),
        DataOwnerList: ["test_uesr"],
        DataOwner: &dataOwnerSubjectParamsVo,
        Alias: &aliasSubjectParamsVo,
        Description: &descriptionSubjectParamsVo,
        NameEn: "test_create_catalog_demo",
        NameCh: "test_create_catalog_demo",
    }
    response, err := client.CreateSubjectNew(request)
    if err == nil {
```

```
    fmt.Printf("%+v\n", response)
  } else {
    fmt.Println(err)
  }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is entity details.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.8.9 Modify Theme (New)

Function

Modify Theme (New).

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v3/{project_id}/design/subjects

Table 7-445 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-446 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-447 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string. This parameter is mandatory for update and can be left empty for creation.
name_ch	Yes	String	Chinese name
name_en	Yes	String	English name.

Parameter	Mandatory	Type	Description
description	No	String	Description, which is mandatory for the business object.
alias	No	String	Alias
data_owner	No	String	Data owner department.
data_owner_list	Yes	String	Data owner. Array format: ["user_1","user_2"].
level	Yes	Integer	Indicates the level. The value ranges from 1 to 7.
parent_id	No	String	Upper-layer subject ID, which is a string. This parameter is left empty for the first layer.
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item. Customized attribute of a theme.

Table 7-448 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Response Parameters

Status code: 200

Table 7-449 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-450 data

Parameter	Type	Description
value	CatalogVO object	CatalogVO information.

Table 7-451 CatalogVO

Parameter	Type	Description
name_ch	String	Chinese name
name_en	String	English name.
description	String	Description
qualified_name	String	File name extension.
guid	String	GUID, which is automatically generated.
code	String	Code.
alias	String	Alias
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
data_owner	String	Data owner.
data_owner_list	String	Data owner set.
data_department	String	Data domain.
path	String	Path information.
level	Integer	Level information.
ordinal	Integer	Sequence number.

Parameter	Type	Description
owner	String	Owner of the instance.
parent_id	String	Parent directory ID, which is a string. If no parent directory ID exists, the parent directory is the root directory.
swap_order_id	String	ID of the target node at the same layer, which is a string
id	String	Subject ID, which is a string
qualified_id	String	Authentication ID, which is automatically generated.
from_public	Boolean	Indicates whether the data is from the public layer.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
children_num	Integer	Number of subprocesses, excluding subprocesses. This parameter is not transferred from the front end.
children	Array of CatalogVO objects	Lower-level subdirectory, which is read-only.
self_defined_fields	Array of SelfDefinedField-VO objects	Customize Attribute Field:

Table 7-452 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-453 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-454 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-455** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-456** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-457** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Modify Theme (New).

PUT https://{endpoint}/v2/{project_id}/design/subjects

```
{
  "id": "1231174343611035648",
  "name_ch": "test_update_catalog",
  "name_en": "test_create_catalog",
  "description": "this is a update demo.",
  "alias": "",
  "data_owner": "dataOwner",
  "data_owner_list": ["test_uesr"],
  "self_defined_fields": [],
  "level": 1
}
```

Example Responses

Status code: 200

This operation is successful, and the returned data is CatalogVO details.

```
{
  "data": {
    "value": {
      "name_ch": "test_update_catalog",
      "name_en": "test_create_catalog",
      "description": "this is a update demo.",
      "qualified_name": "test_create_catalog@Business.0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "guid": null,
      "code": null,
      "status": "DRAFT",
      "new_biz": null,
      "alias": "",
      "data_owner": "dataOwner",
      "data_owner_list": ["test_uesr"],
      "data_department": null,
      "path": "test_update_catalog",
      "level": 1,
      "ordinal": null,
      "owner": "test_uesr",
      "parent_id": null,
      "swap_order_id": null,
      "id": "1231174343611035648",
      "qualified_id": null,
      "from_public": null,
      "create_by": "test_uesr",
      "update_by": "test_uesr",
      "create_time": "2024-04-20T09:27:18+08:00",
      "update_time": "2024-04-22T17:36:23.829+08:00",
      "self_defined_fields": [],
      "children_num": null,
      "children": null
    }
  }
}
```

```
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Modify Theme (New).

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class UpdateSubjectNewSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        environment variables and decrypted during use to ensure security.  
    }  
}
```

```
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
UpdateSubjectNewRequest request = new UpdateSubjectNewRequest();
SubjectParamsVO body = new SubjectParamsVO();
body.withLevel(1);
body.withDataOwnerList("[\"test_uesr\"]");
body.withDataOwner("dataOwner");
body.withAlias("");
body.withDescription("this is a update demo.");
body.withNameEn("test_create_catalog");
body.withNameCh("test_update_catalog");
body.withId("1231174343611035648");
request.withBody(body);
try {
    UpdateSubjectNewResponse response = client.updateSubjectNew(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Modify Theme (New).

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
```

```
.with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
.build()

try:
    request = UpdateSubjectNewRequest()
    request.body = SubjectParamsVO(
        level=1,
        data_owner_list=["test_uesr"],
        data_owner="dataOwner",
        alias="",
        description="this is a update demo.",
        name_en="test_create_catalog",
        name_ch="test_update_catalog",
        id="1231174343611035648"
    )
    response = client.update_subject_new(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Modify Theme (New).

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateSubjectNewRequest{}
    dataOwnerSubjectParamsVo := "dataOwner"
    aliasSubjectParamsVo := ""
    descriptionSubjectParamsVo := "this is a update demo."
    idSubjectParamsVo := "1231174343611035648"
    request.Body = &model.SubjectParamsVo{
        Level: int32(1),
        DataOwnerList: ["test_uesr"],
        DataOwner: &dataOwnerSubjectParamsVo,
        Alias: &aliasSubjectParamsVo,
```

```
Description: &descriptionSubjectParamsVo,  
NameEn: "test_create_catalog",  
NameCh: "test_update_catalog",  
Id: &idSubjectParamsVo,  
}  
response, err := client.UpdateSubjectNew(request)  
if err == nil {  
    fmt.Printf("%v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is CatalogVO details.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.9 Subject Levels

7.9.1 Obtains the topic level.

Function

Obtains the topic level.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/subject-levels

Table 7-458 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-459 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-460 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-461 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-462 data

Parameter	Type	Description
value	Array of CatalogLevelVO objects	value: unified outer data structure of the returned result.

Table 7-463 CatalogLevelVO

Parameter	Type	Description
id	String	ID, which is a string
level	Integer	Indicates the level. The value ranges from 1 to 7.

Parameter	Type	Description
name_ch	String	Chinese name
name_en	String	English name.

Status code: 400**Table 7-464** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-465** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-466** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-467** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain the level information of a topic in the current workspace.

```
GET https://{endpoint}/v2/{project_id}/design/subject-levels
```

Example Responses**Status code: 200**

This operation succeeds, and the hierarchy list is returned.

```
{
  "data": {
    "value": [ {
      "id": "1141755876370214912",
      "level": 7,
      "name_ch": "Business Object",
      "name_en": "Business Object"
    }, {
      "id": "1141755876366020608",
      "level": 2,
      "name_ch": "Subject Area",
      "name_en": "Business Domain"
    }, {
      "id": "1184953097022242816",
      "level": 3,
      "name_ch": "Subject Area L3",
      "name_en": "Business Domain L3"
    }, {
      "id": "1184953097022242817",
      "level": 4,
      "name_ch": "Subject Area L4",
      "name_en": "Business Domain L4"
    }, {
      "id": "1184953097022242818",
      "level": 5,
      "name_ch": "Subject Area L5",
      "name_en": "Business Domain L5"
    }, {
      "id": "1184953097022242819",
      "level": 6,
      "name_ch": "Subject Area L6",
      "name_en": "Business Domain L6"
    }, {
      "id": "1141755876357632000",
      "level": 1,

```

```
"name_ch" : "Subject Area Group",
"name_en" : "Business Domain Group"
}]
}
```

Status code: 400

BadRequest

```
{
"error_code" : "DS.60xx",
"error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
"error_code" : "DS.60xx",
"error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
"error_code" : "DS.60xx",
"error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
"error_code" : "DS.60xx",
"error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListSubjectLevelsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    }
}
```

```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListSubjectLevelsRequest request = new ListSubjectLevelsRequest();
try {
    ListSubjectLevelsResponse response = client.listSubjectLevels(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListSubjectLevelsRequest()
        response = client.list_subject_levels(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListSubjectLevelsRequest{}
    response, err := client.ListSubjectLevels(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the hierarchy list is returned.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.9.2 Modifying or Deleting a Topic Level

Function

Modify or delete a topic level.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/subject-levels

Table 7-468 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-469 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-470 Request body parameters

Parameter	Mandatory	Type	Description
levels	No	Array of CatalogLevelVO objects	Theme level information.

Table 7-471 CatalogLevelVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
level	No	Integer	Indicates the level. The value ranges from 1 to 7.
name_ch	No	String	Chinese name
name_en	No	String	English name.

Response Parameters

Status code: 200

Table 7-472 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-473 data

Parameter	Type	Description
value	CatalogLevelVOList object	value: unified outer data structure of the returned result.

Table 7-474 CatalogLevelVOList

Parameter	Type	Description
levels	Array of CatalogLevelVO objects	Theme level information.

Table 7-475 CatalogLevelVO

Parameter	Type	Description
id	String	ID, which is a string
level	Integer	Indicates the level. The value ranges from 1 to 7.
name_ch	String	Chinese name
name_en	String	English name.

Status code: 400**Table 7-476** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-477 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-478 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-479 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain the level information of a topic in the current workspace.

```
PUT https://{endpoint}/v2/{project_id}/design/subject-levels
```

```
{
  "levels": [ {
    "id": "1141755876357632000",
    "level": 1,
    "name_ch": "Subject Area Group",
```



```
"name_en" : "Business Domain Group"
}, {
  "id" : "1141755876366020608",
  "level" : 2,
  "name_ch" : "Subject Area",
  "name_en" : "Business Domain"
}, {
  "id" : "1184953097022242816",
  "level" : 3,
  "name_ch" : "Subject Area L3",
  "name_en" : "Business Domain L3"
}, {
  "id" : "1184953097022242817",
  "level" : 4,
  "name_ch" : "Subject Area L4",
  "name_en" : "Business Domain L4"
}, {
  "id" : "1184953097022242818",
  "level" : 5,
  "name_ch" : "Subject Area L5",
  "name_en" : "Business Domain L5"
}, {
  "id" : "1141755876370214912",
  "level" : 6,
  "name_ch" : "Business Object",
  "name_en" : "Business Object"
} ]
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is CatalogLevelVOList.

```
{
  "data" : {
    "value" : {
      "levels" : [ {
        "id" : "1141755876357632000",
        "level" : 1,
        "name_ch" : "Subject Area Group",
        "name_en" : "Business Domain Group"
      }, {
        "id" : "1141755876366020608",
        "level" : 2,
        "name_ch" : "Subject Area",
        "name_en" : "Business Domain"
      }, {
        "id" : "1184953097022242816",
        "level" : 3,
        "name_ch" : "Subject Area L3",
        "name_en" : "Business Domain L3"
      }, {
        "id" : "1184953097022242817",
        "level" : 4,
        "name_ch" : "Subject Area L4",
        "name_en" : "Business Domain L4"
      }, {
        "id" : "1184953097022242818",
        "level" : 5,
        "name_ch" : "Subject Area L5",
        "name_en" : "Business Domain L5"
      }, {
        "id" : "1141755876370214912",
        "level" : 6,
        "name_ch" : "Business Object",
        "name_en" : "Business Object"
      } ]
    }
  }
}
```

```
}  
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API is used to obtain the level information of a topic in the current workspace.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class ChangeSubjectsSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
```

security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.

// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
String ak = System.getenv("CLOUD_SDK_AK");  
String sk = System.getenv("CLOUD_SDK_SK");  
String projectId = "{project_id}";
```

```
ICredential auth = new BasicCredentials()  
    .withProjectId(projectId)  
    .withAk(ak)  
    .withSk(sk);
```

```
DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
    .withCredential(auth)  
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
    .build();
```

```
ChangeSubjectsRequest request = new ChangeSubjectsRequest();
```

```
CatalogLevelVOList body = new CatalogLevelVOList();
```

```
List<CatalogLevelVO> listbodyLevels = new ArrayList<>();
```

```
listbodyLevels.add(  
    new CatalogLevelVO()  
        .withId("1141755876357632000")  
        .withLevel(1)  
        .withNameCh("Subject Area Group")  
        .withNameEn("Business Domain Group")  
);
```

```
listbodyLevels.add(  
    new CatalogLevelVO()  
        .withId("1141755876366020608")  
        .withLevel(2)  
        .withNameCh("Subject Area")  
        .withNameEn("Business Domain")  
);
```

```
listbodyLevels.add(  
    new CatalogLevelVO()  
        .withId("1184953097022242816")  
        .withLevel(3)  
        .withNameCh("Subject Area L3")  
        .withNameEn("Business Domain L3")  
);
```

```
listbodyLevels.add(  
    new CatalogLevelVO()  
        .withId("1184953097022242817")  
        .withLevel(4)  
        .withNameCh("Subject Area L4")  
        .withNameEn("Business Domain L4")  
);
```

```
listbodyLevels.add(  
    new CatalogLevelVO()  
        .withId("1184953097022242818")  
        .withLevel(5)  
        .withNameCh("Subject Area L5")  
        .withNameEn("Business Domain L5")  
);
```

```
listbodyLevels.add(  
    new CatalogLevelVO()  
        .withId("1141755876370214912")  
        .withLevel(6)  
        .withNameCh("Business Object")  
        .withNameEn("Business Object")  
);
```

```
body.withLevels(listbodyLevels);
```

```
request.withBody(body);
```

```
try {  
    ChangeSubjectsResponse response = client.changeSubjects(request);  
    System.out.println(response.toString());  
} catch (ConnectionException e) {  
    e.printStackTrace();
```

```
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

This API is used to obtain the level information of a topic in the current workspace.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ChangeSubjectsRequest()
        listLevelsbody = [
            CatalogLevelVO(
                id="1141755876357632000",
                level=1,
                name_ch="Subject Area Group",
                name_en="Business Domain Group"
            ),
            CatalogLevelVO(
                id="1141755876366020608",
                level=2,
                name_ch="Subject Area",
                name_en="Business Domain"
            ),
            CatalogLevelVO(
                id="1184953097022242816",
                level=3,
                name_ch="Subject Area L3",
                name_en="Business Domain L3"
            ),
            CatalogLevelVO(
                id="1184953097022242817",
                level=4,
                name_ch="Subject Area L4",
                name_en="Business Domain L4"
            ),
        ],
```

```
CatalogLevelVO(  
    id="1184953097022242818",  
    level=5,  
    name_ch="Subject Area L5",  
    name_en="Business Domain L5"  
),  
CatalogLevelVO(  
    id="1141755876370214912",  
    level=6,  
    name_ch="Business Object",  
    name_en="Business Object"  
)  
]  
request.body = CatalogLevelVOList(  
    levels=listLevelsbody  
)  
response = client.change_subjects(request)  
print(response)  
except exceptions.ClientRequestException as e:  
    print(e.status_code)  
    print(e.request_id)  
    print(e.error_code)  
    print(e.error_msg)
```

Go

This API is used to obtain the level information of a topic in the current workspace.

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build())  
  
    request := &model.ChangeSubjectsRequest{  
        idLevels:= "1141755876357632000"  
        levelLevels:= int32(1)  
        nameChLevels:= "Subject Area Group"  
        nameEnLevels:= "Business Domain Group"  
        idLevels1:= "1141755876366020608"  
        levelLevels1:= int32(2)  
        nameChLevels1:= "Subject Area"
```

```
nameEnLevels1:= "Business Domain"
idLevels2:= "1184953097022242816"
levelLevels2:= int32(3)
nameChLevels2:= "Subject Area L3"
nameEnLevels2:= "Business Domain L3"
idLevels3:= "1184953097022242817"
levelLevels3:= int32(4)
nameChLevels3:= "Subject Area L4"
nameEnLevels3:= "Business Domain L4"
idLevels4:= "1184953097022242818"
levelLevels4:= int32(5)
nameChLevels4:= "Subject Area L5"
nameEnLevels4:= "Business Domain L5"
idLevels5:= "1141755876370214912"
levelLevels5:= int32(6)
nameChLevels5:= "Business Object"
nameEnLevels5:= "Business Object"
var listLevelsbody = []model.CatalogLevelVo{
    {
        Id: &idLevels,
        Level: &levelLevels,
        NameCh: &nameChLevels,
        NameEn: &nameEnLevels,
    },
    {
        Id: &idLevels1,
        Level: &levelLevels1,
        NameCh: &nameChLevels1,
        NameEn: &nameEnLevels1,
    },
    {
        Id: &idLevels2,
        Level: &levelLevels2,
        NameCh: &nameChLevels2,
        NameEn: &nameEnLevels2,
    },
    {
        Id: &idLevels3,
        Level: &levelLevels3,
        NameCh: &nameChLevels3,
        NameEn: &nameEnLevels3,
    },
    {
        Id: &idLevels4,
        Level: &levelLevels4,
        NameCh: &nameChLevels4,
        NameEn: &nameEnLevels4,
    },
    {
        Id: &idLevels5,
        Level: &levelLevels5,
        NameCh: &nameChLevels5,
        NameEn: &nameEnLevels5,
    },
}
request.Body = &model.CatalogLevelVoList{
    Levels: &listLevelsbody,
}
response, err := client.ChangeSubjects(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is CatalogLevelVOList.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.10 Catalog Management

7.10.1 Obtains all directories.

Function

Obtains all directories (data standards and code tables).

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/directories

Table 7-480 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-481 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
type	Yes	String	Obtain the data in the directory. If there are subdirectories, obtain the data in all subdirectories. Options: <ul style="list-style-type: none"> • CODE: code table directory • STANDARD_ELEMENT: data standard directory

Request Parameters

Table 7-482 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-483 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-484 data

Parameter	Type	Description
value	Array of DirectoryVO objects	value: unified outer data structure of the returned result.

Table 7-485 DirectoryVO

Parameter	Type	Description
name	String	Catalog name.
description	String	Description.

Parameter	Type	Description
type	String	Directory type Options: <ul style="list-style-type: none">• STANDARD_ELEMENT: data standard• CODE: code table
id	String	ID. This parameter is optional for creation but mandatory for update. ID string
parent_id	String	Parent directory ID. The value null is transferred at the first layer. ID string
prev_id	String	ID of the previous node. Transfer null for the first node. ID string
root_id	String	Root node ID, which is read-only ID string
qualified_name	String	Asset name of a catalog. This parameter is read-only.
from_public	Boolean	Indicates whether the data is from the public layer. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
ref_id	String	Associated subject ID, which is a string
children	Array of DirectoryVO objects	Subdirectory.

Status code: 400

Table 7-486 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-487 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-488 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Obtains all directories of the data standard based on the directory type.

GET https://{endpoint}/v2/{project_id}/design/directories?type=STANDARD_ELEMENT

Example Responses

Status code: 200

This operation succeeds, and the returned data is a directory with subdirectories.

```
{
  "data": {
    "value": [ {
      "name": "Payment terms",
      "description": null,
      "type": "STANDARD_ELEMENT",
      "id": "1169318103583268864",
      "parent_id": null,
      "prev_id": null,
      "root_id": "1169318103583268864",
      "qualified_name": "Payment Methods",
      "create_time": "2023-11-01T16:52:41+08:00",
      "update_time": "2023-11-01T16:52:41+08:00",
      "from_public": false,
      "create_by": "test_uesr",
      "update_by": "test_uesr",
      "ref_id": null,
      "children": [ {
        "name": "Online payment",
        "description": null,
        "type": "STANDARD_ELEMENT",
        "id": "1231215227505364992",
        "parent_id": "1169318103583268864",
        "prev_id": null,
        "root_id": "1169318103583268864",
        "qualified_name": "Payment Method. Online Payment",
        "create_time": "2024-04-20T12:09:45+08:00",
        "update_time": "2024-04-20T12:09:45+08:00",
        "from_public": false,
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "ref_id": null,
        "children": [ ]
      } ]
    } ]
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListDirectoriesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListDirectoriesRequest request = new ListDirectoriesRequest();
        try {
            ListDirectoriesResponse response = client.listDirectories(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListDirectoriesRequest()
    response = client.list_directories(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListDirectoriesRequest{}
    response, err := client.ListDirectories(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a directory with subdirectories.
400	BadRequest
401	Unauthorized
403	Forbidden

7.10.2 Create a Directory

Function

Create directories (data standards and code tables).

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/directories

Table 7-489 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-490 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-491 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Catalog name.
description	No	String	Description.
type	Yes	String	Directory type Options: <ul style="list-style-type: none"> STANDARD_ELEMENT: data standard CODE: code table

Parameter	Mandatory	Type	Description
id	No	String	ID. This parameter is optional for creation but mandatory for update. ID string
parent_id	Yes	String	Parent directory ID. The value null is transferred at the first layer. ID string
prev_id	Yes	String	ID of the previous node. Transfer null for the first node. ID string
ref_id	No	String	Associated subject ID, which is a string
children	No	Array of DirectoryVO objects	Subdirectory.

Response Parameters

Status code: 200

Table 7-492 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-493 data

Parameter	Type	Description
value	DirectoryVO object	value: unified outer data structure of the returned result.

Table 7-494 DirectoryVO

Parameter	Type	Description
name	String	Catalog name.
description	String	Description.

Parameter	Type	Description
type	String	Directory type Options: <ul style="list-style-type: none">• STANDARD_ELEMENT: data standard• CODE: code table
id	String	ID. This parameter is optional for creation but mandatory for update. ID string
parent_id	String	Parent directory ID. The value null is transferred at the first layer. ID string
prev_id	String	ID of the previous node. Transfer null for the first node. ID string
root_id	String	Root node ID, which is read-only ID string
qualified_name	String	Asset name of a catalog. This parameter is read-only.
from_public	Boolean	Indicates whether the data is from the public layer. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
ref_id	String	Associated subject ID, which is a string
children	Array of DirectoryVO objects	Subdirectory.

Status code: 400

Table 7-495 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-496 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-497 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a directory based on the request parameters.

```
POST https://{endpoint}/v2/{project_id}/design/directories?type=STANDARD_ELEMENT
{
  "name": "Online payment",
  "parent_id": "1169318103583268864",
  "prev_id": "1169318103583268864",
  "type": "STANDARD_ELEMENT"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is DirectoryVO.

```
{
  "data" : {
    "value" : {
      "name" : "Online payment",
      "description" : null,
      "type" : "STANDARD_ELEMENT",
      "id" : "1231215227505364992",
      "parent_id" : "1169318103583268864",
      "prev_id" : null,
      "root_id" : "1169318103583268864",
      "qualified_name" : "Payment Method. Online Payment",
      "create_time" : "2024-04-20T12:09:45.11+08:00",
      "update_time" : "2024-04-20T12:09:45.11+08:00",
      "from_public" : null,
      "create_by" : "test_uesr",
      "update_by" : "test_uesr",
      "ref_id" : null,
      "children" : null
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a directory based on the request parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
```

```
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class CreateDirectorySolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateDirectoryRequest request = new CreateDirectoryRequest();
        DirectoryVO body = new DirectoryVO();
        body.withPrevid("1169318103583268864");
        body.withParentId("1169318103583268864");
        body.withType(DirectoryVO.TypeEnum.fromValue("STANDARD_ELEMENT"));
        body.withName("Online payment");
        request.withBody(body);
        try {
            CreateDirectoryResponse response = client.createDirectory(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Create a directory based on the request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
```

```
variables and decrypted during use to ensure security.
# In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = CreateDirectoryRequest()
    request.body = DirectoryVO(
        prev_id="1169318103583268864",
        parent_id="1169318103583268864",
        type="STANDARD_ELEMENT",
        name="Online payment"
    )
    response = client.create_directory(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Create a directory based on the request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateDirectoryRequest{}
    request.Body = &model.DirectoryVo{
        Previd: "1169318103583268864",
```

```
ParentId: "1169318103583268864",
Type: model.GetDirectoryVoTypeEnum().STANDARD_ELEMENT,
Name: "Online payment",
}
response, err := client.CreateDirectory(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is DirectoryVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.10.3 Modifying a Directory

Function

Modify the directory (data standard and code table).

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/directories

Table 7-498 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-499 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-500 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Catalog name.
description	No	String	Description.
type	Yes	String	Directory type Options: <ul style="list-style-type: none">• STANDARD_ELEMENT: data standard• CODE: code table

Parameter	Mandatory	Type	Description
id	No	String	ID. This parameter is optional for creation but mandatory for update. ID string
parent_id	Yes	String	Parent directory ID. The value null is transferred at the first layer. ID string
prev_id	Yes	String	ID of the previous node. Transfer null for the first node. ID string
ref_id	No	String	Associated subject ID, which is a string
children	No	Array of DirectoryVO objects	Subdirectory.

Response Parameters

Status code: 200

Table 7-501 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-502 data

Parameter	Type	Description
value	DirectoryVO object	value: unified outer data structure of the returned result.

Table 7-503 DirectoryVO

Parameter	Type	Description
name	String	Catalog name.
description	String	Description.

Parameter	Type	Description
type	String	Directory type Options: <ul style="list-style-type: none">• STANDARD_ELEMENT: data standard• CODE: code table
id	String	ID. This parameter is optional for creation but mandatory for update. ID string
parent_id	String	Parent directory ID. The value null is transferred at the first layer. ID string
prev_id	String	ID of the previous node. Transfer null for the first node. ID string
root_id	String	Root node ID, which is read-only ID string
qualified_name	String	Asset name of a catalog. This parameter is read-only.
from_public	Boolean	Indicates whether the data is from the public layer. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
ref_id	String	Associated subject ID, which is a string
children	Array of DirectoryVO objects	Subdirectory.

Status code: 400

Table 7-504 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-505 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-506 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Modify the directory based on the request parameters.

```
PUT https://{endpoint}/v2/{project_id}/design/directories?type=STANDARD_ELEMENT
{
  "name" : "Online payment",
  "parent_id" : "1169318103583268864",
  "prev_id" : "1169318103583268864",
  "type" : "STANDARD_ELEMENT",
  "id" : "1231215227505364992"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is DirectoryVO.

```
{
  "data" : {
    "value" : {
      "name" : "Online payment",
      "description" : null,
      "type" : "STANDARD_ELEMENT",
      "id" : "1231215227505364992",
      "parent_id" : "1169318103583268864",
      "prev_id" : null,
      "root_id" : "1169318103583268864",
      "qualified_name" : null,
      "create_time" : null,
      "update_time" : null,
      "from_public" : null,
      "create_by" : null,
      "update_by" : "0833a573fe80d5401f6dc010a775569a",
      "ref_id" : null,
      "children" : null
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Modify the directory based on the request parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
```

```
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class UpdateDirectorySolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateDirectoryRequest request = new UpdateDirectoryRequest();
        DirectoryVO body = new DirectoryVO();
        body.withPrevid("1169318103583268864");
        body.withParentId("1169318103583268864");
        body.withId("1231215227505364992");
        body.withType(DirectoryVO.TypeEnum.fromValue("STANDARD_ELEMENT"));
        body.withName("Online payment");
        request.withBody(body);
        try {
            UpdateDirectoryResponse response = client.updateDirectory(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Modify the directory based on the request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```

```
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
# In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = UpdateDirectoryRequest()
    request.body = DirectoryVO(
        prev_id="1169318103583268864",
        parent_id="1169318103583268864",
        id="1231215227505364992",
        type="STANDARD_ELEMENT",
        name="Online payment"
    )
    response = client.update_directory(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Modify the directory based on the request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateDirectoryRequest{}
```

```
idDirectoryVo:= "1231215227505364992"
request.Body = &model.DirectoryVo{
    Previd: "1169318103583268864",
    ParentId: "1169318103583268864",
    Id: &idDirectoryVo,
    Type: model.GetDirectoryVoTypeEnum().STANDARD_ELEMENT,
    Name: "Online payment",
}
response, err := client.UpdateDirectory(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is DirectoryVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.10.4 Deleting a Directory

Function

Delete directories (data standards and code tables).

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/directories

Table 7-507 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-508 Query Parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	Array of entity IDs, which is a string

Request Parameters

Table 7-509 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-510 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-511 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-512 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-513 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-514 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Modify the directory based on the request parameters.

```
DELETE https://{endpoint}/v2/{project_id}/design/directories?ids=1231215227505364992
```

Example Responses

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
```

```
"error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class DeleteDirectorySolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        DeleteDirectoryRequest request = new DeleteDirectoryRequest();  
        try {  
            DeleteDirectoryResponse response = client.deleteDirectory(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
```

```
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteDirectoryRequest()
        response = client.delete_directory(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteDirectoryRequest{}
    response, err := client.DeleteDirectory(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
```

```
    fmt.Println(err)
  }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.11 Atomic Metrics

7.11.1 Searching for Atomic Metrics

Function

You can search for atomic metrics by Chinese and English names, creator, reviewer, status, and modification time. Fuzzy search is supported.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/atomic-indexs

Table 7-515 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-516 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be approved• PUBLISHED: released• OFFLINE_DEVELOPING: to be approved• OFFLINE: offline• REJECT: rejected
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l3_id	No	String	ID of business object l3, which is a string
table_id	No	String	ID of the associated table, which is a string

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-517 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-518 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-519 data

Parameter	Type	Description
value	value object	Returned data information.

Table 7-520 value

Parameter	Type	Description
records	Array of AtomicIndexVO objects	AtomicIndexVO array.
total	Integer	Total number.

Table 7-521 AtomicIndexVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Indicates the English name of an atomic metric.

Parameter	Type	Description
name_ch	String	Indicates the English name of an atomic metric.
description	String	Description.
create_by	String	Creator.
cal_exp	String	Calculation expression, for example, 'sum(\${fact_column_id})', where fact_column_id indicates the ID of the referenced field in the fact table
cal_fn_ids	Array of strings	Reference function ID, which is a string
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
table_id	String	Fact table ID, which is a string
tb_name	String	Name of a fact table.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
field_ids	Array of strings	Field ID, which is a string
field_names	Array of strings	Field name.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> ● DRAFT: draft ● PUBLISH_DEVELOPING: to be reviewed ● PUBLISHED: released ● OFFLINE_DEVELOPING: to be reviewed ● OFFLINE: offline ● REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.

Parameter	Type	Description
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-522 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-523 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-524 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-525 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-526 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Query the first 10 atomic metrics whose names contain test_a.

```
GET https://{endpoint}/v2/{project_id}/design/atomic-indexs?offset=1&limit=10&name=test_a
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is an AtomicIndexVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "id": "1194663814218559488",
        "name_en": "test_atomic",
        "name_ch": "test_atomic",
        "description": "",
        "create_by": "test_uesr",
        "cal_exp": "avg(${1184822297161261056}) ",
        "cal_fn_ids": null,
        "l1_id": "1080855591154495488",
        "l2_id": null,
        "l3_id": null,
        "table_id": "1184822297001877504",
        "tb_name": "test_111",
        "dw_type": "DWS",

```

```
"field_ids" : [ "1184822297161261056" ],
"field_names" : null,
"status" : "PUBLISHED",
"biz_type" : "FACT_LOGIC_TABLE",
"create_time" : "2024-01-10T15:27:29+08:00",
"update_time" : "2024-01-10T15:29:30+08:00",
"l1" : "ceshi_test_2",
"l2" : null,
"l3" : null,
"approval_info" : {
  "id" : "1194664324778602496",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1194663814218559488",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2024-01-10T15:29:31+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2024-01-10T15:29:31+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "Fast Approval OK. (Associated Publish By test_atomic, Automatic Approval.)",
  "directory_path" : null
},
"new_biz" : null
}]
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchAtomicIndexesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchAtomicIndexesRequest request = new SearchAtomicIndexesRequest();
        try {
            SearchAtomicIndexesResponse response = client.searchAtomicIndexes(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = SearchAtomicIndexesRequest()
    response = client.search_atomic_indexes(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.SearchAtomicIndexesRequest{}
    response, err := client.SearchAtomicIndexes(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is an AtomicIndexVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.11.2 Creating Atomic Metrics

Function

Create an atomic metric.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/atomic-indexs

Table 7-527 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-528 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-529 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name_en	Yes	String	Indicates the English name of an atomic metric.
name_ch	Yes	String	Indicates the English name of an atomic metric.
description	No	String	Description.
create_by	No	String	Creator.

Parameter	Mandatory	Type	Description
cal_exp	Yes	String	Calculation expression, for example, 'sum({fact_column_id})', where fact_column_id indicates the ID of the referenced field in the fact table
cal_fn_ids	No	Array of strings	Reference function ID, which is a string
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	Business object GUID, which is a string
table_id	Yes	String	Fact table ID, which is a string
tb_name	No	String	Name of a fact table.
field_ids	Yes	Array of strings	Field ID, which is a string
field_names	No	Array of strings	Field name.
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">● DRAFT: draft● PUBLISH_DEVELOPING: to be reviewed● PUBLISHED: released● OFFLINE_DEVELOPING: to be reviewed● OFFLINE: offline● REJECT: rejected

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.

Parameter	Mandatory	Type	Description
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-530 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-531 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Response Parameters

Status code: 200

Table 7-532 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-533 data

Parameter	Type	Description
value	AtomicIndexVO object	Returned data information.

Table 7-534 AtomicIndexVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Indicates the English name of an atomic metric.
name_ch	String	Indicates the English name of an atomic metric.
description	String	Description.

Parameter	Type	Description
create_by	String	Creator.
cal_exp	String	Calculation expression, for example, 'sum(\${fact_column_id})', where fact_column_id indicates the ID of the referenced field in the fact table
cal_fn_ids	Array of strings	Reference function ID, which is a string
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
table_id	String	Fact table ID, which is a string
tb_name	String	Name of a fact table.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
field_ids	Array of strings	Field ID, which is a string
field_names	Array of strings	Field name.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.

Parameter	Type	Description
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-535 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-536 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-537 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-538 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-539 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create an atomic metric based on the following parameters:

```
POST https://{endpoint}/v2/{project_id}/design/atomic-indexs
```

```
{
  "id" : 0,
  "name_ch" : "test_create_atomic_index",
  "name_en" : "test_create_atomic_index",
  "table_id" : "1215358267694411776",
  "cal_exp" : "max(${1215358267774103552})",
  "l3_id" : "1080855591154495488",
  "field_ids" : [ "1215358267774103552" ],
  "biz_type" : "FACT_LOGIC_TABLE",
  "description" : "None"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is AtomicIndexVO.

```
{
  "data" : {
    "value" : {
      "id" : "1227990857618227200",
      "name_en" : "test_create_atomic_index",
      "name_ch" : "test_create_atomic_index",
      "description" : "None",

```



```
"create_by" : "test_uesr",
"cal_exp" : "max(${1215358267774103552})",
"cal_fn_ids" : null,
"l1_id" : null,
"l2_id" : null,
"l3_id" : "1080855591154495488",
"table_id" : "1215358267694411776",
"tb_name" : null,
"dw_type" : null,
"field_ids" : [ "1215358267774103552" ],
"field_names" : null,
"status" : "DRAFT",
"biz_type" : "FACT_LOGIC_TABLE",
"create_time" : "2024-04-11T14:37:15.423+08:00",
"update_time" : "2024-04-11T14:37:15.423+08:00",
"l1" : null,
"l2" : null,
"l3" : null,
"approval_info" : null,
"new_biz" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create an atomic metric based on the following parameters:

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
```

```
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateDesignAtomicIndexSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateDesignAtomicIndexRequest request = new CreateDesignAtomicIndexRequest();
        AtomicIndexVO body = new AtomicIndexVO();
        List<String> listbodyFieldIds = new ArrayList<>();
        listbodyFieldIds.add("1215358267774103552");
        body.withBizType(AtomicIndexVO.BizTypeEnum.fromValue("FACT_LOGIC_TABLE"));
        body.withFieldIds(listbodyFieldIds);
        body.withTableId("1215358267694411776");
        body.withL3Id("1080855591154495488");
        body.withCalExp("max(${1215358267774103552})");
        body.withDescription("None");
        body.withNameCh("test_create_atomic_index");
        body.withNameEn("test_create_atomic_index");
        body.withId("0");
        request.withBody(body);
        try {
            CreateDesignAtomicIndexResponse response = client.createDesignAtomicIndex(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Create an atomic metric based on the following parameters:

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *
```

```
if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateDesignAtomicIndexRequest()
        listFieldIdsbody = [
            "1215358267774103552"
        ]
        request.body = AtomicIndexVO(
            biz_type="FACT_LOGIC_TABLE",
            field_ids=listFieldIdsbody,
            table_id="1215358267694411776",
            l3_id="1080855591154495488",
            cal_exp="max(${1215358267774103552})",
            description="None",
            name_ch="test_create_atomic_index",
            name_en="test_create_atomic_index",
            id="0"
        )
        response = client.create_design_atomic_index(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Create an atomic metric based on the following parameters:

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
```

```
WithProjectId(projectId).
Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.CreateDesignAtomicIndexRequest{}
var listFieldIdsbody = []string{
    "1215358267774103552",
}
bizTypeBizType:= model.GetBizTypeEnumBizTypeEnum().FACT_LOGIC_TABLE
descriptionAtomicIndexVo:= "None"
idAtomicIndexVo:= "0"
request.Body = &model.AtomicIndexVo{
    BizType: &bizTypeBizType,
    FieldIds: listFieldIdsbody,
    TableId: "1215358267694411776",
    L3Id: "1080855591154495488",
    CalExp: "max({1215358267774103552})",
    Description: &descriptionAtomicIndexVo,
    NameCh: "test_create_atomic_index",
    NameEn: "test_create_atomic_index",
    Id: &idAtomicIndexVo,
}
response, err := client.CreateDesignAtomicIndex(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is AtomicIndexVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.11.3 Updating an Atomic Metric

Function

This API is used to update a single atomic metric.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/atomic-indexs

Table 7-540 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-541 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-542 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name_en	Yes	String	Indicates the English name of an atomic metric.
name_ch	Yes	String	Indicates the English name of an atomic metric.
description	No	String	Description.
create_by	No	String	Creator.
cal_exp	Yes	String	Calculation expression, for example, 'sum(\${fact_column_id})', where fact_column_id indicates the ID of the referenced field in the fact table
cal_fn_ids	No	Array of strings	Reference function ID, which is a string
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	Business object GUID, which is a string
table_id	Yes	String	Fact table ID, which is a string
tb_name	No	String	Name of a fact table.
field_ids	Yes	Array of strings	Field ID, which is a string
field_names	No	Array of strings	Field name.

Parameter	Mandatory	Type	Description
status	No	String	<p>Release status of an entity. This parameter is read-only and does not need to be set during creation and update.</p> <p>Options:</p> <ul style="list-style-type: none"> ● DRAFT: draft ● PUBLISH_DEVELOPING: to be reviewed ● PUBLISHED: released ● OFFLINE_DEVELOPING: to be reviewed ● OFFLINE: offline ● REJECT: rejected

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.

Parameter	Mandatory	Type	Description
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-543 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-544 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Response Parameters

Status code: 200

Table 7-545 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-546 data

Parameter	Type	Description
value	AtomicIndexVO object	Returned data information.

Table 7-547 AtomicIndexVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Indicates the English name of an atomic metric.
name_ch	String	Indicates the English name of an atomic metric.
description	String	Description.

Parameter	Type	Description
create_by	String	Creator.
cal_exp	String	Calculation expression, for example, 'sum(\${fact_column_id})', where fact_column_id indicates the ID of the referenced field in the fact table
cal_fn_ids	Array of strings	Reference function ID, which is a string
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
table_id	String	Fact table ID, which is a string
tb_name	String	Name of a fact table.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
field_ids	Array of strings	Field ID, which is a string
field_names	Array of strings	Field name.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.

Parameter	Type	Description
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-548 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-549 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-550 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-551 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-552 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Update atomic metrics based on the following parameters:

```
PUT https://{endpoint}/v2/{project_id}/design/atomic-indexs
```

```
{
  "id": "1227990857618227200",
  "name_ch": "test_update_atomic_index",
  "name_en": "test_update_atomic_index",
  "table_id": "1215358267694411776",
  "cal_exp": "max(${121535826774103552})",
  "l3_id": "1080855591154495488",
  "field_ids": [ "121535826774103552" ],
  "biz_type": "FACT_LOGIC_TABLE",
  "description": "This is the description of an atomic metric."
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is AtomicIndexVO.

```
{
  "data": {
    "value": {
      "id": "1227990857618227200",
      "name_en": "test_update_atomic_index",
      "name_ch": "test_update_atomic_index",
      "description": "This is the description of an atomic metric.",
    }
  }
}
```

```
"create_by" : "test_uesr",
"cal_exp" : "max(${1215358267774103552})",
"cal_fn_ids" : null,
"l1_id" : null,
"l2_id" : null,
"l3_id" : "1080855591154495488",
"table_id" : "1215358267694411776",
"tb_name" : null,
"dw_type" : null,
"field_ids" : [ "1215358267774103552" ],
"field_names" : null,
"status" : "DRAFT",
"biz_type" : "FACT_LOGIC_TABLE",
"create_time" : "2024-04-11T14:37:15+08:00",
"update_time" : "2024-04-11T14:45:26.179+08:00",
"l1" : null,
"l2" : null,
"l3" : null,
"approval_info" : null,
"new_biz" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update atomic metrics based on the following parameters:

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
```

```
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class UpdateDesignAtomicIndexSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateDesignAtomicIndexRequest request = new UpdateDesignAtomicIndexRequest();
        AtomicIndexVO body = new AtomicIndexVO();
        List<String> listbodyFieldIds = new ArrayList<>();
        listbodyFieldIds.add("1215358267774103552");
        body.withBizType(AtomicIndexVO.BizTypeEnum.fromValue("FACT_LOGIC_TABLE"));
        body.withFieldIds(listbodyFieldIds);
        body.withTableId("1215358267694411776");
        body.withL3Id("1080855591154495488");
        body.withCalExp("max({1215358267774103552})");
        body.withDescription("This is the description of an atomic metric.");
        body.withNameCh("test_update_atomic_index");
        body.withNameEn("test_update_atomic_index");
        body.withId("1227990857618227200");
        request.withBody(body);
        try {
            UpdateDesignAtomicIndexResponse response = client.updateDesignAtomicIndex(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Update atomic metrics based on the following parameters:

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *
```

```
if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateDesignAtomicIndexRequest()
        listFieldIdsbody = [
            "1215358267774103552"
        ]
        request.body = AtomicIndexVO(
            biz_type="FACT_LOGIC_TABLE",
            field_ids=listFieldIdsbody,
            table_id="1215358267694411776",
            l3_id="1080855591154495488",
            cal_exp="max({1215358267774103552})",
            description="This is the description of an atomic metric.",
            name_ch="test_update_atomic_index",
            name_en="test_update_atomic_index",
            id="1227990857618227200"
        )
        response = client.update_design_atomic_index(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Update atomic metrics based on the following parameters:

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
```



```
WithProjectId(projectId).
Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.UpdateDesignAtomicIndexRequest{}
var listFieldIdsbody = []string{
    "1215358267774103552",
}
bizTypeBizType:= model.GetBizTypeEnumBizTypeEnum().FACT_LOGIC_TABLE
descriptionAtomicIndexVo:= "This is the description of an atomic metric."
idAtomicIndexVo:= "1227990857618227200"
request.Body = &model.AtomicIndexVo{
    BizType: &bizTypeBizType,
    FieldIds: listFieldIdsbody,
    TableId: "1215358267694411776",
    L3Id: "1080855591154495488",
    CalExp: "max({1215358267774103552})",
    Description: &descriptionAtomicIndexVo,
    NameCh: "test_update_atomic_index",
    NameEn: "test_update_atomic_index",
    Id: &idAtomicIndexVo,
}
response, err := client.UpdateDesignAtomicIndex(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is AtomicIndexVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.11.4 Deleting Atomic Metrics

Function

Delete atomic metrics in batches.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/atomic-indexs

Table 7-553 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-554 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-555 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> ● PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-556 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-557 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400**Table 7-558** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-559** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-560** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to delete atomic metrics based on the input parameters. Only atomic metrics in the Draft, Offline, or Rejected state can be deleted.

```
DELETE https://{endpoint}/v2/{project_id}/design/atomic-idxs
{
```

```
"ids" : [ "1227990857618227200" ]  
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of deleted data records.

```
{  
  "value" : 1  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API is used to delete atomic metrics based on the input parameters. Only atomic metrics in the Draft, Offline, or Rejected state can be deleted.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class DeleteDesignAtomicIndexSolution {
```

```
public static void main(String[] args) {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    // environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running
    // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    String ak = System.getenv("CLOUD_SDK_AK");
    String sk = System.getenv("CLOUD_SDK_SK");
    String projectId = "{project_id}";

    ICredential auth = new BasicCredentials()
        .withProjectId(projectId)
        .withAk(ak)
        .withSk(sk);

    DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
        .withCredential(auth)
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
    DeleteDesignAtomicIndexRequest request = new DeleteDesignAtomicIndexRequest();
    IdsParam body = new IdsParam();
    List<String> listbodyIds = new ArrayList<>();
    listbodyIds.add("1227990857618227200");
    body.withIds(listbodyIds);
    request.withBody(body);
    try {
        DeleteDesignAtomicIndexResponse response = client.deleteDesignAtomicIndex(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

This API is used to delete atomic metrics based on the input parameters. Only atomic metrics in the Draft, Offline, or Rejected state can be deleted.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
```

```
.with_credentials(credentials) \  
.with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
.build()  
  
try:  
    request = DeleteDesignAtomicIndexRequest()  
    listIdsbody = [  
        "1227990857618227200"  
    ]  
    request.body = IdsParam(  
        ids=listIdsbody  
    )  
    response = client.delete_design_atomic_index(request)  
    print(response)  
except exceptions.ClientRequestException as e:  
    print(e.status_code)  
    print(e.request_id)  
    print(e.error_code)  
    print(e.error_msg)
```

Go

This API is used to delete atomic metrics based on the input parameters. Only atomic metrics in the Draft, Offline, or Rejected state can be deleted.

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build())  
  
    request := &model.DeleteDesignAtomicIndexRequest{}  
    var listIdsbody = []string{  
        "1227990857618227200",  
    }  
    request.Body = &model.IdsParam{  
        Ids: listIdsbody,  
    }  
    response, err := client.DeleteDesignAtomicIndex(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

```
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.11.5 Viewing Atomic Metric Details

Function

This API is used to obtain atomic metric details by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/atomic-indexs/{id}

Table 7-561 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-562 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-563 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-564 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-565 data

Parameter	Type	Description
value	AtomicIndexVO object	Returned data information.

Table 7-566 AtomicIndexVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Indicates the English name of an atomic metric.
name_ch	String	Indicates the English name of an atomic metric.
description	String	Description.
create_by	String	Creator.
cal_exp	String	Calculation expression, for example, 'sum(\${fact_column_id})', where fact_column_id indicates the ID of the referenced field in the fact table
cal_fn_ids	Array of strings	Reference function ID, which is a string
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
table_id	String	Fact table ID, which is a string
tb_name	String	Name of a fact table.

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
field_ids	Array of strings	Field ID, which is a string
field_names	Array of strings	Field name.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.

Parameter	Type	Description
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-567 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-568 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-569 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-570 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-571 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain atomic metric details based on the atomic metric ID.

```
GET https://{endpoint}/v2/{project_id}/design/atomic-indexs/1193149872312823808
```

Example Responses

Status code: 200

This operation is successful, and the returned data is AtomicIndexVO details.

```
{
  "data" : {
    "value" : {
      "id" : "1193149872312823808",
      "name_en" : "countMoney",
      "name_ch" : "Calculate the total fare.",
      "description" : null,
      "create_by" : "test_uesr",
      "cal_exp" : "SUM(${1169329693695123463})",
      "cal_fn_ids" : null,
      "l1_id" : "1169309252771299328",
      "l2_id" : "1169309374670356480,1169309948774162432",
      "l3_id" : null,
      "table_id" : "1169329693619625984",
      "tb_name" : "Itinerary order",
      "dw_type" : "MRS_HIVE",
      "field_ids" : [ "1169329693695123463" ],
      "field_names" : [ "fare_amount" ],
      "status" : "REJECT",
    }
  }
}
```

```
"biz_type" : "FACT_LOGIC_TABLE",
"create_time" : "2024-01-06T11:11:37+08:00",
"update_time" : "2024-01-22T20:30:44+08:00",
"l1" : "Urban traffic",
"l2" : "Trip Record/Standard Record",
"l3" : null,
"approval_info" : {
  "id" : "1193149901970747392",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1193149872312823808",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "REJECT",
  "approval_status" : "REJECT",
  "approval_type" : null,
  "submit_time" : "2024-01-06T11:11:44+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2024-01-22T20:30:44+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "no",
  "directory_path" : null
},
"new_biz" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowAtomicIndexByIidSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowAtomicIndexByIidRequest request = new ShowAtomicIndexByIidRequest();
        request.withIid("{iid}");
        try {
            ShowAtomicIndexByIidResponse response = client.showAtomicIndexByIid(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
```



```
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ShowAtomicIndexByIdRequest()
    request.id = "{id}"
    response = client.show_atomic_index_by_id(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAtomicIndexByIdRequest{}
    request.Id = "{id}"
    response, err := client.ShowAtomicIndexById(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is AtomicIndexVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.12 Derivative Metrics

7.12.1 Searching for Derivative Indicators

Function

Search for derivative metrics by name, creator, reviewer, status, modification time, and l3Id.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/derivative-indexs

Table 7-572 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-573 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be approved• PUBLISHED: released• OFFLINE_DEVELOPING: to be approved• OFFLINE: offline• REJECT: rejected
dimension_id	No	String	ID of the dimension based on which dimension attributes are queried. The ID is a string.
dimension_group	No	String	Query dimension attributes based on the dimension granularity.
atomic_index_id	No	String	ID of the atomic metric based on which dimension attributes are queried. The ID is a string.
all_metrics	No	Boolean	Indicates whether to query compound metrics.
dw_type	No	String	Data Connection Type
l3_id	No	String	ID of business object l3, which is a string
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Mandatory	Type	Description
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-574 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-575 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-576 data

Parameter	Type	Description
value	value object	Returned data information.

Table 7-577 value

Parameter	Type	Description
records	Array of DerivativeIndex-VO objects	DerivativeIndexVO array.
total	Integer	Total number.

Table 7-578 DerivativeIndexVO

Parameter	Type	Description
id	String	Derivative metric ID, which is a string. This parameter is mandatory for update.
name_en	String	Derivative metric name in English
name_ch	String	Derivative metric name
description	String	Description, which is read-only.
create_by	String	Creator.
data_type	String	Field type
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
atomic_index_id	String	Atomic metric ID, which is a string
time_condition_id	String	Time filter ID, which is a string
time_field_id	String	ID of the field associated with the time filter, which is a string
time_field_name	String	Name of the field associated with the time filter. This parameter is read-only.
common_conditions	Array of CommonConditionVO objects	General filter information.

Parameter	Type	Description
dimension_groups	Array of DerivativeIndex-DimensionVO objects	Statistical dimension, which cannot be changed during update
monitor	MetricMonitorVO object	Monitor metrics.
atomic_index	AtomicIndexVO object	Atomic metric information, including the name and unit. This parameter is read-only.
time_condition_name	String	Time filter name. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
summary_table_id	String	Summary table ID, which is a read-only string
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-579 CommonConditionVO

Parameter	Type	Description
name	String	Name.
field_ids	Array of strings	Field ID, in the format table_id.field_id.
field_names	Array of strings	Field name information. Format: Table name.Field name.
cal_exp	String	Calculation expression, for example, '\$ {table_id.column_id} > 1', where table_id indicates the ID of the table to which the referenced field belongs and column_id indicates the ID of the referenced field.
cal_fn_ids	Array of strings	Reference function ID, which is a string
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.
id	String	General filter ID, which is a read-only string

Table 7-580 DerivativeIndexDimensionVO

Parameter	Type	Description
group_id	String	Dimension group ID.
role	String	Dimension role.
dimension_id	String	Dimension ID, which is a string
hierarchies_id	String	Dimension level ID, which is a string
ordinal	Integer	Sequence number, which is read-only.
group_name	String	Name of a dimension group.
group_code	String	Dimension group code.

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute, which is read-only.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
dw_type	String	Data connection type.
id	String	Level ID, which is a read-only string

Table 7-581 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-582 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string

Parameter	Type	Description
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-583 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types

Parameter	Type	Description
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.

Table 7-584 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-585 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-586 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-587 MetricMonitorVO

Parameter	Type	Description
id	String	ID, which is a string
other_metric_ids	Array of strings	ID of another metric, which is a string
other_metric_names	Array of strings	Name of another indicator. This parameter is read-only.
other_compound_metric_ids	Array of strings	ID of another composite index.
other_compound_metric_names	Array of strings	Name of another compound metric.
expression	String	Alarm expression.
metric_id	String	Mount pointer ID, which is a string
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Type	Description
metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction

Table 7-588 AtomicIndexVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Indicates the English name of an atomic metric.
name_ch	String	Indicates the Chinese name of an atomic metric.
description	String	Description.
create_by	String	Creator.

Parameter	Type	Description
cal_exp	String	Calculation expression, for example, 'sum(\${fact_column_id})', where fact_column_id indicates the ID of the referenced field in the fact table
cal_fn_ids	Array of strings	Reference function ID, which is a string
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
table_id	String	Fact table ID, which is a string
tb_name	String	Name of a fact table.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
field_ids	Array of strings	Field ID, which is a string
field_names	Array of strings	Field name.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> ● DRAFT: draft ● PUBLISH_DEVELOPING: to be reviewed ● PUBLISHED: released ● OFFLINE_DEVELOPING: to be reviewed ● OFFLINE: offline ● REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.

Parameter	Type	Description
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-589 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-590 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-591 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-592 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-593 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query derivative metrics in pagination mode based on request parameters.

```
GET https://{endpoint}/v2/{project_id}/design/derivative-indexs?offset=1&limit=10
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a DerivativeIndexVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "id": "1181167466668310528",
        "name_en": "sum_total_amount",
        "name_ch": "Creating a derivative metric named
total_amount_(vendor,stroke_order.dim_dropoff_date_key)",
        "description": "",
        "create_by": "test_uesr",
        "data_type": "STRING",
        "l1_id": "1170066794946420736",
        "l2_id": null,
        "l3_id": null,
        "status": "PUBLISHED",
        "atomic_index_id": "1170005876631875584",
```



```
"time_condition_id" : null,
"time_field_id" : null,
"time_field_name" : null,
"common_conditions" : [ ],
"dimension_groups" : [ {
  "group_id" : "1169322847009742848",
  "role" : null,
  "dimension_id" : "1169322847009742848",
  "hierarchies_id" : null,
  "ordinal" : 1,
  "group_name" : "Suppliers",
  "group_code" : "dim_vendor",
  "biz_type" : "DIMENSION",
  "hierarchies" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "l1_id" : null,
  "l2_id" : null,
  "l3_id" : null,
  "dw_type" : null,
  "id" : "1181167466768973824"
} ],
"monitor" : null,
"atomic_index" : {
  "id" : "1170005876631875584",
  "name_en" : "sum_total_amount",
  "name_ch" : "total_amount",
  "description" : "",
  "create_by" : null,
  "cal_exp" : "sum (total fare)",
  "cal_fn_ids" : null,
  "l1_id" : null,
  "l2_id" : null,
  "l3_id" : null,
  "table_id" : "1169329693619625984",
  "tb_name" : null,
  "dw_type" : null,
  "field_ids" : [ ],
  "field_names" : null,
  "status" : "DRAFT",
  "biz_type" : "FACT_LOGIC_TABLE",
  "create_time" : "2024-04-20T16:12:42.274+08:00",
  "update_time" : "2024-04-20T16:12:42.274+08:00",
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_info" : null,
  "new_biz" : null
},
"time_condition_name" : null,
"create_time" : "2023-12-04T09:37:49+08:00",
"update_time" : "2023-12-04T09:37:49+08:00",
"l1" : "test_001",
"l2" : null,
"l3" : null,
"summary_table_id" : "1181167468975177728",
"approval_info" : {
  "id" : "1181167467817549824",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "118116746668310528",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
```

```
"approval_type" : null,
"submit_time" : "2023-12-04T09:37:49+08:00",
"create_by" : null,
"l1" : null,
"l2" : null,
"l3" : null,
"approval_time" : "2023-12-04T09:37:49+08:00",
"approver" : "test_uesr",
"email" : null,
"msg" : "Fast Approval OK.",
"directory_path" : null
},
"new_biz" : null
}]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListDerivativeIndexesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
```

```
environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListDerivativeIndexesRequest request = new ListDerivativeIndexesRequest();
try {
    ListDerivativeIndexesResponse response = client.listDerivativeIndexes(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListDerivativeIndexesRequest()
        response = client.list_derivative_indexes(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
```

```
print(e.error_code)
print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListDerivativeIndexesRequest{}
    response, err := client.ListDerivativeIndexes(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a DerivativeIndex-VO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.12.2 Creating a Derivative Metric

Function

This API is used to create a derivative metric.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/derivative-indexs

Table 7-594 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-595 Request body parameters

Parameter	Mandatory	Type	Description
[items]	Yes	Array of DerivativeIndexVO objects	Parameter information of a Derivative metric, in array format.

Table 7-596 DerivativeIndexVO

Parameter	Mandatory	Type	Description
id	No	String	Derivative metric ID, which is a string. This parameter is mandatory for update.
name_en	Yes	String	Derivative metric name in English
name_ch	Yes	String	Derivative metric name
create_by	No	String	Creator.

Parameter	Mandatory	Type	Description
data_type	No	String	Field type
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	Business object GUID, which is a string
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
atomic_index_id	Yes	String	Atomic metric ID, which is a string
time_condition_id	No	String	Time filter ID, which is a string
time_field_id	No	String	ID of the field associated with the time filter, which is a string
common_conditions	No	Array of CommonConditionVO objects	General filter information.
dimension_groups	No	Array of DerivativeIndexDimensionVO objects	Statistical dimension, which cannot be changed during update
monitor	No	MetricMonitorVO object	Monitor metrics.

Parameter	Mandatory	Type	Description
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-597 CommonConditionVO

Parameter	Mandatory	Type	Description
name	Yes	String	Name.
field_ids	Yes	Array of strings	Field ID, in the format table_id.field_id.
field_names	No	Array of strings	Field name information. Format: Table name.Field name.
cal_exp	Yes	String	Calculation expression, for example, '\$ {table_id.column_id} > 1', where table_id indicates the ID of the table to which the referenced field belongs and column_id indicates the ID of the referenced field.

Parameter	Mandatory	Type	Description
cal_fn_ids	Yes	Array of strings	Reference function ID, which is a string
front_configs	No	String	Frontend expression configuration, which is used for front-end data restoration.

Table 7-598 DerivativeIndexDimensionVO

Parameter	Mandatory	Type	Description
group_id	Yes	String	Dimension group ID.
role	No	String	Dimension role.
dimension_id	No	String	Dimension ID, which is a string
hierarchies_id	No	String	Dimension level ID, which is a string
group_name	No	String	Name of a dimension group.
group_code	No	String	Dimension group code.

Parameter	Mandatory	Type	Description
biz_type	Yes	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
dw_type	No	String	Data connection type.

Table 7-599 MetricMonitorVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
other_metric_ids	No	Array of strings	ID of another metric, which is a string
other_compond_metric_ids	No	Array of strings	ID of another composite index.
expression	No	String	Alarm expression.
metric_id	No	String	Mount pointer ID, which is a string
front_configs	No	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Mandatory	Type	Description
metric_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction

Table 7-600 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-601 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Response Parameters

Status code: 200

Table 7-602 Response body parameters

Parameter	Type	Description
data	data object	Number of successfully created derivative metrics

Table 7-603 data

Parameter	Type	Description
value	BatchOperationVO object	Result of creating a derivative metric

Table 7-604 BatchOperationVO

Parameter	Type	Description
id	String	Batch approval ID, which is a string
tenant_id	String	Project ID.
group_id	String	Group ID, which is a string
biz_name	String	Service name.

Parameter	Type	Description
biz_id	String	Business ID, which is a string
operation_status	String	Operation result type enumeration. RUNNING(Running), SUCCESS(Operation succeeded), and FAILED(Operation failed). Options: <ul style="list-style-type: none"> • RUNNING: The task is running. • SUCCESS: The operation is successful. • FAILED: The operation fails.
operation_type	String	Indicates the type.
biz_info	String	Service details.
create_by	String	Creator.
remark	String	Indicates the remark information.
total	Integer	Total number.
success	Integer	Number of successful operations.
failed	Integer	Indicates the number of failed operations.
rate	String	Indicates the current progress.
logs	String	Logs.
groups	Array of BatchOperationVO objects	Group information.

Status code: 400

Table 7-605 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-606 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-607 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a derivative metric based on request parameters.

POST https://{endpoint}/v2/{project_id}/design/derivative-indexs

```
[ {
  "name_ch" : "Total fare(supplier,stroke order.fare)",
  "name_en" : "sum_total_amount",
  "data_type" : "STRING",
  "l3_id" : "1169309252771299328",
  "atomic_index_id" : "1170005876631875584",
  "dimension_groups" : [ {
    "biz_type" : "DIMENSION",
    "group_id" : "1169322847009742848",
    "group_name" : "Supplier",
    "dimension_id" : "1169322847009742848",
    "role" : null,
    "hierarchies_id" : null
  }, {
    "biz_type" : "DEGENERATE_DIMENSION",
    "group_id" : "1169329693619625984.1169329693695123463",
    "group_name" : "Stroke order.fare",
    "dimension_id" : null,
    "role" : null,
    "hierarchies_id" : null
  } ],
  "time_condition_id" : null,
  "time_field_id" : null,
  "common_conditions" : [ ],
  "monitor" : null,
  "description" : ""
} ]
```

Example Responses

Status code: 200

The operation succeeds. **BatchOperationVO** is returned.

```
{
  "data" : {
    "value" : {
      "id" : null,
      "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
      "group_id" : "1300493983935508480",
      "biz_name" : null,
      "biz_id" : null,
      "operation_status" : "SUCCESS",
      "operation_type" : "BATCH_CREATE",
      "biz_info" : null,
      "create_by" : "test_uesr",
      "remark" : null,
      "total" : 1,
      "success" : 1,
      "failed" : 0,
      "rate" : "1.00",
      "logs" : null,
      "groups" : [ {
        "id" : "1300493984405270528",
        "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-9ce2cfd08fda4f3b95faa5ba65fa5ec3",
        "group_id" : "1300493983935508480",
        "biz_name" : "Total fare(supplier,stroke order.fare)",
        "biz_id" : "1300493984245886976",
        "operation_status" : "SUCCESS",
        "operation_type" : "BATCH_CREATE",
        "biz_info" : "{\"atomic_index_id\":\"1170005876631875584\",\"create_by\":\"test_uesr\",\"data_type\": \"STRING\",\"description\":\"\",\"id\":\"1300493984245886976\",\"l3_id\":\"1169309252771299328\",\"name_ch\": \"total fare(supplier,stroke order.fare)\",\"name_en\":\"sum_total_amount\",\"status\":\"DRAFT\"}",
        "create_by" : "test_uesr",
        "remark" : "CREATE",
        "total" : 0,
        "success" : 0,
        "failed" : 0,
        "rate" : null,
        "logs" : null,
        "groups" : null
      } ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden


```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a derivative metric based on request parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateDesignDerivativeIndexSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        CreateDesignDerivativeIndexRequest request = new CreateDesignDerivativeIndexRequest();
        List<DerivativeIndexDimensionVO> listBodyDimensionGroups = new ArrayList<>();
        listBodyDimensionGroups.add(
            new DerivativeIndexDimensionVO()
                .withGroupId("1169322847009742848")
                .withDimensionId("1169322847009742848")
                .withGroupName("Supplier")
                .withBizType(DerivativeIndexDimensionVO.BizTypeEnum.fromValue("DIMENSION"))
        );
        listBodyDimensionGroups.add(
            new DerivativeIndexDimensionVO()
                .withGroupId("1169329693619625984.1169329693695123463")
                .withGroupName("Stroke order.fare")
                .withBizType(DerivativeIndexDimensionVO.BizTypeEnum.fromValue("DEGENERATE_DIMENSION"))
        );
        List<DerivativeIndexVO> listbodyBody = new ArrayList<>();
        listbodyBody.add(
            new DerivativeIndexVO()

```

```
.withNameEn("sum_total_amount")
.withNameCh("Total fare(supplier,stroke order.fare)")
.withDescription("")
.withDataType("STRING")
.withL3Id("1169309252771299328")
.withAtomicIndexId("1170005876631875584")
.withCommonConditions()
.withDimensionGroups(listBodyDimensionGroups)
);
request.withBody(listbodyBody);
try {
    CreateDesignDerivativeIndexResponse response = client.createDesignDerivativeIndex(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Create a derivative metric based on request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateDesignDerivativeIndexRequest()
        listDimensionGroupsBody = [
            DerivativeIndexDimensionVO(
                group_id="1169322847009742848",
                dimension_id="1169322847009742848",
                group_name="Supplier",
                biz_type="DIMENSION"
            ),
            DerivativeIndexDimensionVO(
                group_id="1169329693619625984.1169329693695123463",
                group_name="Stroke order.fare",
                biz_type="DEGENERATE_DIMENSION"
            )
        ]
```

```
)
]
listBodybody = [
    DerivativeIndexVO(
        name_en="sum_total_amount",
        name_ch="Total fare(supplier,stroke order.fare)",
        description="",
        data_type="STRING",
        l3_id="1169309252771299328",
        atomic_index_id="1170005876631875584",
        dimension_groups=listDimensionGroupsBody
    )
]
request.body = listBodybody
response = client.create_design_derivative_index(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Create a derivative metric based on request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateDesignDerivativeIndexRequest{
        dimensionIdDimensionGroups:= "1169322847009742848"
        groupNameDimensionGroups:= "Supplier"
        bizTypeDimensionGroups:= model.GetDerivativeIndexDimensionVoBizTypeEnum().DIMENSION
        groupNameDimensionGroups1:= "Stroke order.fare"
        bizTypeDimensionGroups1:=
model.GetDerivativeIndexDimensionVoBizTypeEnum().DEGENERATE_DIMENSION
    var listDimensionGroupsBody = []model.DerivativeIndexDimensionVo{
        {
            GroupId: "1169322847009742848",
            DimensionId: &dimensionIdDimensionGroups,
```

```
        GroupName: &groupNameDimensionGroups,  
        BizType: &bizTypeDimensionGroups,  
    },  
    {  
        GroupId: "1169329693619625984.1169329693695123463",  
        GroupName: &groupNameDimensionGroups1,  
        BizType: &bizTypeDimensionGroups1,  
    },  
}  
descriptionBody:= ""  
dataTypeBody:= "STRING"  
var listBodybody = []model.DerivativeIndexVo{  
    {  
        NameEn: "sum_total_amount",  
        NameCh: "Total fare(supplier,stroke order.fare)",  
        Description: &descriptionBody,  
        DataType: &dataTypeBody,  
        L3Id: "1169309252771299328",  
        AtomicIndexId: "1170005876631875584",  
        DimensionGroups: &listDimensionGroupsBody,  
    },  
}  
request.Body = &listBodybody  
response, err := client.CreateDesignDerivativeIndex(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds. BatchOperationVO is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.12.3 Updating a Derivative Metric

Function

This API is used to update a derivative metric.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/derivative-indexs

Table 7-608 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-609 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Derivative metric ID, which is a string. This parameter is mandatory for update.
name_en	Yes	String	Derivative metric name in English
name_ch	Yes	String	Derivative metric name
create_by	No	String	Creator.
data_type	No	String	Field type
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	Business object GUID, which is a string

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
atomic_index_id	Yes	String	Atomic metric ID, which is a string
time_condition_id	No	String	Time filter ID, which is a string
time_field_id	No	String	ID of the field associated with the time filter, which is a string
common_conditions	No	Array of CommonConditionVO objects	General filter information.
dimension_groups	No	Array of DerivativeIndexDimensionVO objects	Statistical dimension, which cannot be changed during update
monitor	No	MetricMonitorVO object	Monitor metrics.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-610 CommonConditionVO

Parameter	Mandatory	Type	Description
name	Yes	String	Name.
field_ids	Yes	Array of strings	Field ID, in the format table_id.field_id.
field_names	No	Array of strings	Field name information. Format: Table name.Field name.
cal_exp	Yes	String	Calculation expression, for example, '\$ {table_id.column_id} > 1', where table_id indicates the ID of the table to which the referenced field belongs and column_id indicates the ID of the referenced field.
cal_fn_ids	Yes	Array of strings	Reference function ID, which is a string
front_configs	No	String	Frontend expression configuration, which is used for front-end data restoration.

Table 7-611 DerivativeIndexDimensionVO

Parameter	Mandatory	Type	Description
group_id	Yes	String	Dimension group ID.
role	No	String	Dimension role.
dimension_id	No	String	Dimension ID, which is a string
hierarchies_id	No	String	Dimension level ID, which is a string
group_name	No	String	Name of a dimension group.
group_code	No	String	Dimension group code.

Parameter	Mandatory	Type	Description
biz_type	Yes	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
dw_type	No	String	Data connection type.

Table 7-612 MetricMonitorVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
other_metric_ids	No	Array of strings	ID of another metric, which is a string
other_compond_metric_ids	No	Array of strings	ID of another composite index.
expression	No	String	Alarm expression.
metric_id	No	String	Mount pointer ID, which is a string
front_configs	No	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Mandatory	Type	Description
metric_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction

Table 7-613 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-614 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Response Parameters

Status code: 200

Table 7-615 Response body parameters

Parameter	Type	Description
data	data object	Number of successfully updated derivative metrics

Table 7-616 data

Parameter	Type	Description
value	DerivativeIndexVO object	Result of updating derivative metrics

Table 7-617 DerivativeIndexVO

Parameter	Type	Description
id	String	Derivative metric ID, which is a string. This parameter is mandatory for update.
name_en	String	Derivative metric name in English
name_ch	String	Derivative metric name

Parameter	Type	Description
description	String	Description, which is read-only.
create_by	String	Creator.
data_type	String	Field type
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
atomic_index_id	String	Atomic metric ID, which is a string
time_condition_id	String	Time filter ID, which is a string
time_field_id	String	ID of the field associated with the time filter, which is a string
time_field_name	String	Name of the field associated with the time filter. This parameter is read-only.
common_conditions	Array of CommonConditionVO objects	General filter information.
dimension_groups	Array of DerivativeIndex-DimensionVO objects	Statistical dimension, which cannot be changed during update
monitor	MetricMonitorVO object	Monitor metrics.

Parameter	Type	Description
atomic_index	AtomicIndexVO object	Atomic metric information, including the name and unit. This parameter is read-only.
time_condition_name	String	Time filter name. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
summary_table_id	String	Summary table ID, which is a read-only string
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-618 CommonConditionVO

Parameter	Type	Description
name	String	Name.

Parameter	Type	Description
field_ids	Array of strings	Field ID, in the format table_id.field_id.
field_names	Array of strings	Field name information. Format: Table name.Field name.
cal_exp	String	Calculation expression, for example, '{table_id.column_id} > 1', where table_id indicates the ID of the table to which the referenced field belongs and column_id indicates the ID of the referenced field.
cal_fn_ids	Array of strings	Reference function ID, which is a string
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.
id	String	General filter ID, which is a read-only string

Table 7-619 DerivativeIndexDimensionVO

Parameter	Type	Description
group_id	String	Dimension group ID.
role	String	Dimension role.
dimension_id	String	Dimension ID, which is a string
hierarchies_id	String	Dimension level ID, which is a string
ordinal	Integer	Sequence number, which is read-only.
group_name	String	Name of a dimension group.
group_code	String	Dimension group code.

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute, which is read-only.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
dw_type	String	Data connection type.
id	String	Level ID, which is a read-only string

Table 7-620 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-621 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string

Parameter	Type	Description
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-622 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types

Parameter	Type	Description
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.

Table 7-623 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-624 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-625 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-626 MetricMonitorVO

Parameter	Type	Description
id	String	ID, which is a string
other_metric_ids	Array of strings	ID of another metric, which is a string
other_metric_names	Array of strings	Name of another indicator. This parameter is read-only.
other_compound_metric_ids	Array of strings	ID of another composite index.
other_compound_metric_names	Array of strings	Name of another compound metric.
expression	String	Alarm expression.
metric_id	String	Mount pointer ID, which is a string
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Type	Description
metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction

Table 7-627 AtomicIndexVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Indicates the English name of an atomic metric.
name_ch	String	Indicates the Chinese name of an atomic metric.
description	String	Description.
create_by	String	Creator.

Parameter	Type	Description
cal_exp	String	Calculation expression, for example, 'sum(\${fact_column_id})', where fact_column_id indicates the ID of the referenced field in the fact table
cal_fn_ids	Array of strings	Reference function ID, which is a string
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
table_id	String	Fact table ID, which is a string
tb_name	String	Name of a fact table.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
field_ids	Array of strings	Field ID, which is a string
field_names	Array of strings	Field name.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> ● DRAFT: draft ● PUBLISH_DEVELOPING: to be reviewed ● PUBLISHED: released ● OFFLINE_DEVELOPING: to be reviewed ● OFFLINE: offline ● REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.

Parameter	Type	Description
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-628 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-629 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-630 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-631 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-632 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Update a derivative metric based on input parameters.

PUT https://{endpoint}/v2/{project_id}/design/derivative-indexs

```
{
  "id": "1300493984245886976",
  "name_en": "sum_total_amount",
  "name_ch": "Total fare(supplier,stroke order.fare)",
  "data_type": "STRING",
  "l3_id": "1169309252771299328",
  "atomic_index_id": "1170005876631875584",
  "time_condition_id": null,
  "time_field_id": null,
  "common_conditions": [ ],
  "dimension_groups": [ {
    "ordinal": 1,
    "biz_type": "DIMENSION",
    "group_id": "1169322847009742848",
    "dimension_id": "1169322847009742848",
    "role": null,
    "hierarchies_id": null
  }, {
    "ordinal": 2,
    "biz_type": "DEGENERATE_DIMENSION",
    "group_id": "1169329693619625984.1169329693695123463",
    "dimension_id": null,
    "role": null,
    "hierarchies_id": null
  } ],
  "monitor": null,
}
```



```
"description" : ""  
}
```

Example Responses

Status code: 200

The operation succeeds. **DerivativeIndexVO** is returned.

```
{  
  "value" : {  
    "id" : "1300493984245886976",  
    "name_en" : "sum_total_amount",  
    "name_ch" : "Total fare(supplier,stroke order.fare)",  
    "description" : "",  
    "create_by" : "test_user",  
    "data_type" : "STRING",  
    "l1_id" : null,  
    "l2_id" : null,  
    "l3_id" : "1169309252771299328",  
    "status" : "DRAFT",  
    "atomic_index_id" : "1170005876631875584",  
    "time_condition_id" : null,  
    "time_field_id" : null,  
    "time_field_name" : null,  
    "common_conditions" : [ ],  
    "dimension_groups" : [ {  
      "group_id" : "1169322847009742848",  
      "role" : null,  
      "dimension_id" : "1169322847009742848",  
      "hierarchies_id" : null,  
      "ordinal" : 1,  
      "group_name" : null,  
      "group_code" : null,  
      "biz_type" : "DIMENSION",  
      "hierarchies" : null,  
      "l1" : null,  
      "l2" : null,  
      "l3" : null,  
      "l1_id" : null,  
      "l2_id" : null,  
      "l3_id" : null,  
      "dw_type" : null,  
      "id" : null,  
      "from_public" : null  
    }, {  
      "group_id" : "1169329693619625984.1169329693695123463",  
      "role" : null,  
      "dimension_id" : null,  
      "hierarchies_id" : null,  
      "ordinal" : 2,  
      "group_name" : null,  
      "group_code" : null,  
      "biz_type" : "DEGENERATE_DIMENSION",  
      "hierarchies" : null,  
      "l1" : null,  
      "l2" : null,  
      "l3" : null,  
      "l1_id" : null,  
      "l2_id" : null,  
      "l3_id" : null,  
      "dw_type" : null,  
      "id" : null,  
      "from_public" : null  
    } ],  
    "monitor" : null,  
    "atomic_index" : null,  
    "time_condition_name" : null,  
    "create_time" : "2024-10-28T16:18:48+08:00",  
  }  
}
```

```
"update_time" : "2024-10-28T17:40:14.903+08:00",
"l1" : null,
"l2" : null,
"l3" : null,
"summary_table_id" : null,
"approval_info" : null,
"new_biz" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update a derivative metric based on input parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class UpdateDesignDerivativeIndexSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    }
}
```

```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
UpdateDesignDerivativeIndexRequest request = new UpdateDesignDerivativeIndexRequest();
DerivativeIndexVO body = new DerivativeIndexVO();
List<DerivativeIndexDimensionVO> listbodyDimensionGroups = new ArrayList<>();
listbodyDimensionGroups.add(
    new DerivativeIndexDimensionVO()
        .withGroupId("1169322847009742848")
        .withDimensionId("1169322847009742848")
        .withOrdinal(1)
        .withBizType(DerivativeIndexDimensionVO.BizTypeEnum.fromValue("DIMENSION"))
);
listbodyDimensionGroups.add(
    new DerivativeIndexDimensionVO()
        .withGroupId("1169329693619625984.1169329693695123463")
        .withOrdinal(2)
        .withBizType(DerivativeIndexDimensionVO.BizTypeEnum.fromValue("DEGENERATE_DIMENSION"))
);
body.withDimensionGroups(listbodyDimensionGroups);
body.withAtomicIndexId("1170005876631875584");
body.withL3Id("1169309252771299328");
body.withDataType("STRING");
body.withDescription("");
body.withNameCh("Total fare(supplier,stroke order.fare)");
body.withNameEn("sum_total_amount");
body.withId("1300493984245886976");
request.withBody(body);
try {
    UpdateDesignDerivativeIndexResponse response = client.updateDesignDerivativeIndex(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Update a derivative metric based on input parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
```

```
# The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
# In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = UpdateDesignDerivativeIndexRequest()
    listDimensionGroupsbody = [
        DerivativeIndexDimensionVO(
            group_id="1169322847009742848",
            dimension_id="1169322847009742848",
            ordinal=1,
            biz_type="DIMENSION"
        ),
        DerivativeIndexDimensionVO(
            group_id="1169329693619625984.1169329693695123463",
            ordinal=2,
            biz_type="DEGENERATE_DIMENSION"
        )
    ]
    request.body = DerivativeIndexVO(
        dimension_groups=listDimensionGroupsbody,
        atomic_index_id="117000587663187584",
        l3_id="1169309252771299328",
        data_type="STRING",
        description="",
        name_ch="Total fare(supplier,stroke order.fare)",
        name_en="sum_total_amount",
        id="1300493984245886976"
    )
    response = client.update_design_derivative_index(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Update a derivative metric based on input parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.UpdateDesignDerivativeIndexRequest{
    dimensionIdDimensionGroups:= "1169322847009742848"
    ordinalDimensionGroups:= int32(1)
    bizTypeDimensionGroups:= model.GetDerivativeIndexDimensionVoBizTypeEnum().DIMENSION
    ordinalDimensionGroups1:= int32(2)
    bizTypeDimensionGroups1:=
model.GetDerivativeIndexDimensionVoBizTypeEnum().DEGENERATE_DIMENSION
var listDimensionGroupsbody = []model.DerivativeIndexDimensionVo{
    {
        GroupId: "1169322847009742848",
        DimensionId: &dimensionIdDimensionGroups,
        Ordinal: &ordinalDimensionGroups,
        BizType: &bizTypeDimensionGroups,
    },
    {
        GroupId: "1169329693619625984.1169329693695123463",
        Ordinal: &ordinalDimensionGroups1,
        BizType: &bizTypeDimensionGroups1,
    },
}
dataTypeDerivativeIndexVo:= "STRING"
descriptionDerivativeIndexVo:= ""
idDerivativeIndexVo:= "1300493984245886976"
request.Body = &model.DerivativeIndexVo{
    DimensionGroups: &listDimensionGroupsbody,
    AtomicIndexId: "1170005876631875584",
    L3Id: "1169309252771299328",
    DataType: &dataTypeDerivativeIndexVo,
    Description: &descriptionDerivativeIndexVo,
    NameCh: "Total fare(supplier,stroke order.fare)",
    NameEn: "sum_total_amount",
    Id: &idDerivativeIndexVo,
}
response, err := client.UpdateDesignDerivativeIndex(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds. DerivativeIndexVO is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.12.4 Deleting Derivative Metrics

Function

This API is used to delete derivative metrics with specified IDs.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/derivative-idxs

Table 7-633 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-634 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string

Parameter	Mandatory	Type	Description
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-635 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-636 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-637 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-638 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-639 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Delete derivative metrics based on the input parameters. Only derivative metrics in the draft, offline, or rejected state can be deleted.

```
DELETE https://{endpoint}/v2/{project_id}/design/derivative-idxs
{
  "ids" : [ "1227990857618227200" ]
}
```

Example Responses

Status code: 200

The operation succeeds, and the number of deleted derivative metrics is returned.

```
{
  "value" : 1
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Delete derivative metrics based on the input parameters. Only derivative metrics in the draft, offline, or rejected state can be deleted.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteDesignDerivativeIndexSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        DeleteDesignDerivativeIndexRequest request = new DeleteDesignDerivativeIndexRequest();
        IdsParam body = new IdsParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1227990857618227200");
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
```

```
        DeleteDesignDerivativeIndexResponse response = client.deleteDesignDerivativeIndex(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

Delete derivative metrics based on the input parameters. Only derivative metrics in the draft, offline, or rejected state can be deleted.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteDesignDerivativeIndexRequest()
        listIdsbody = [
            "1227990857618227200"
        ]
        request.body = IdsParam(
            ids=listIdsbody
        )
        response = client.delete_design_derivative_index(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Delete derivative metrics based on the input parameters. Only derivative metrics in the draft, offline, or rejected state can be deleted.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteDesignDerivativeIndexRequest{}
    var listIdsbody = []string{
        "1227990857618227200",
    }
    request.Body = &model.IdsParam{
        Ids: listIdsbody,
    }
    response, err := client.DeleteDesignDerivativeIndex(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds, and the number of deleted derivative metrics is returned.
400	BadRequest
401	Unauthorized

Status Code	Description
403	Forbidden

7.12.5 Viewing Derivative Indicator Details

Function

This API is used to obtain derivative details by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/derivative-indexes/{id}

Table 7-640 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-641 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-642 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-643** Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-644 data

Parameter	Type	Description
value	DerivativeIndex-VO object	Returned data information.

Table 7-645 DerivativeIndexVO

Parameter	Type	Description
id	String	Derivative metric ID, which is a string. This parameter is mandatory for update.
name_en	String	Derivative metric name in English
name_ch	String	Derivative metric name
description	String	Description, which is read-only.
create_by	String	Creator.
data_type	String	Field type
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
atomic_index_id	String	Atomic metric ID, which is a string
time_condition_id	String	Time filter ID, which is a string

Parameter	Type	Description
time_field_id	String	ID of the field associated with the time filter, which is a string
time_field_name	String	Name of the field associated with the time filter. This parameter is read-only.
common_conditions	Array of CommonConditionVO objects	General filter information.
dimension_groups	Array of DerivativeIndex-DimensionVO objects	Statistical dimension, which cannot be changed during update
monitor	MetricMonitorVO object	Monitor metrics.
atomic_index	AtomicIndexVO object	Atomic metric information, including the name and unit. This parameter is read-only.
time_condition_name	String	Time filter name. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
summary_table_id	String	Summary table ID, which is a read-only string

Parameter	Type	Description
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-646 CommonConditionVO

Parameter	Type	Description
name	String	Name.
field_ids	Array of strings	Field ID, in the format table_id.field_id.
field_names	Array of strings	Field name information. Format: Table name.Field name.
cal_exp	String	Calculation expression, for example, '\$ {table_id.column_id} > 1', where table_id indicates the ID of the table to which the referenced field belongs and column_id indicates the ID of the referenced field.
cal_fn_ids	Array of strings	Reference function ID, which is a string
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.
id	String	General filter ID, which is a read-only string

Table 7-647 DerivativeIndexDimensionVO

Parameter	Type	Description
group_id	String	Dimension group ID.
role	String	Dimension role.
dimension_id	String	Dimension ID, which is a string
hierarchies_id	String	Dimension level ID, which is a string
ordinal	Integer	Sequence number, which is read-only.
group_name	String	Name of a dimension group.

Parameter	Type	Description
group_code	String	Dimension group code.

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute, which is read-only.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
dw_type	String	Data connection type.
id	String	Level ID, which is a read-only string

Table 7-648 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-649 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string

Parameter	Type	Description
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-650 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types

Parameter	Type	Description
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.

Table 7-651 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-652 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-653 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-654 MetricMonitorVO

Parameter	Type	Description
id	String	ID, which is a string
other_metric_ids	Array of strings	ID of another metric, which is a string
other_metric_names	Array of strings	Name of another indicator. This parameter is read-only.
other_compound_metric_ids	Array of strings	ID of another composite index.
other_compound_metric_names	Array of strings	Name of another compound metric.
expression	String	Alarm expression.
metric_id	String	Mount pointer ID, which is a string
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Type	Description
metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction

Table 7-655 AtomicIndexVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Indicates the English name of an atomic metric.
name_ch	String	Indicates the Chinese name of an atomic metric.
description	String	Description.
create_by	String	Creator.

Parameter	Type	Description
cal_exp	String	Calculation expression, for example, 'sum(\${fact_column_id})', where fact_column_id indicates the ID of the referenced field in the fact table
cal_fn_ids	Array of strings	Reference function ID, which is a string
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
table_id	String	Fact table ID, which is a string
tb_name	String	Name of a fact table.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
field_ids	Array of strings	Field ID, which is a string
field_names	Array of strings	Field name.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> ● DRAFT: draft ● PUBLISH_DEVELOPING: to be reviewed ● PUBLISHED: released ● OFFLINE_DEVELOPING: to be reviewed ● OFFLINE: offline ● REJECT: rejected

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.

Parameter	Type	Description
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-656 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-657 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-658 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-659 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-660 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain details about a derivative indicator based on the derivative indicator ID.

GET https://{endpoint}/v2/{project_id}/design/derivative-indexs/1181167466668310528

Example Responses

Status code: 200

This operation is successful, and the returned data is DerivativeIndexVO details.

```
{
  "data": {
    "value": {
      "id": "1181167466668310528",
      "name_en": "sum_total_amount",
      "name_ch": "Creating a derivative metric named
total_amount_(vendor,stroke_order.dim_dropoff_date_key)",
      "description": "",
      "create_by": "test_uesr",
      "data_type": "STRING",
      "l1_id": "1170066794946420736",
      "l2_id": null,
      "l3_id": null,
      "status": "PUBLISHED",
      "atomic_index_id": "1170005876631875584",
      "time_condition_id": null,
      "time_field_id": null,
      "time_field_name": null,
    }
  }
}
```

```
"common_conditions" : [ ],
"dimension_groups" : [ {
  "group_id" : "1169322847009742848",
  "role" : null,
  "dimension_id" : "1169322847009742848",
  "hierarchies_id" : null,
  "ordinal" : 1,
  "group_name" : "Suppliers",
  "group_code" : "dim_vendor",
  "biz_type" : "DIMENSION",
  "hierarchies" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "l1_id" : null,
  "l2_id" : null,
  "l3_id" : null,
  "dw_type" : null,
  "id" : "1181167466768973824"
}],
"monitor" : null,
"atomic_index" : {
  "id" : "1170005876631875584",
  "name_en" : "sum_total_amount",
  "name_ch" : "total_amount",
  "description" : "",
  "create_by" : null,
  "cal_exp" : "sum (total fare)",
  "cal_fn_ids" : null,
  "l1_id" : null,
  "l2_id" : null,
  "l3_id" : null,
  "table_id" : "1169329693619625984",
  "tb_name" : null,
  "dw_type" : null,
  "field_ids" : [ ],
  "field_names" : null,
  "status" : "DRAFT",
  "biz_type" : "FACT_LOGIC_TABLE",
  "create_time" : "2024-04-20T16:15:41.487+08:00",
  "update_time" : "2024-04-20T16:15:41.487+08:00",
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_info" : null,
  "new_biz" : null
},
"time_condition_name" : null,
"create_time" : "2023-12-04T09:37:49+08:00",
"update_time" : "2023-12-04T09:37:49+08:00",
"l1" : "test_001",
"l2" : null,
"l3" : null,
"summary_table_id" : "1181167468975177728",
"approval_info" : {
  "id" : "1181167467817549824",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1181167466668310528",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2023-12-04T09:37:49+08:00",
  "create_by" : null,
```

```
"l1" : null,  
"l2" : null,  
"l3" : null,  
"approval_time" : "2023-12-04T09:37:49+08:00",  
"approver" : "test_uesr",  
"email" : null,  
"msg" : "Fast Approval OK.",  
"directory_path" : null  
},  
"new_biz" : null  
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowDerivativeIndexByIdSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");
```

```
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ShowDerivativeIndexByIdRequest request = new ShowDerivativeIndexByIdRequest();
request.withId("{id}");
try {
    ShowDerivativeIndexByIdResponse response = client.showDerivativeIndexById(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowDerivativeIndexByIdRequest()
        request.id = "{id}"
        response = client.show_derivative_index_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowDerivativeIndexByIdRequest{}
    request.Id = "{id}"
    response, err := client.ShowDerivativeIndexById(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is DerivativeIndexVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.13 Compound Metrics

7.13.1 Searching for a Composite Metric

Function

Search for compound metric information by name, creator, reviewer, status, modification time, and l3Id.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/compound-metrics

Table 7-661 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-662 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be approved• PUBLISHED: released• OFFLINE_DEVELOPING: to be approved• OFFLINE: offline• REJECT: rejected

Parameter	Mandatory	Type	Description
dimension_group	No	String	Query dimension attributes based on the dimension granularity.
atomic_index_id	No	String	ID of the atomic metric based on which dimension attributes are queried. The ID is a string.
l3_id	No	String	ID of business object l3, which is a string
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-663 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-664** Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-665 data

Parameter	Type	Description
value	value object	Returned data information.

Table 7-666 value

Parameter	Type	Description
records	Array of CompoundMetricVO objects	CompoundMetricVO array.
total	Integer	Total number.

Table 7-667 CompoundMetricVO

Parameter	Type	Description
id	String	Compound metric ID, which is a string. This parameter is mandatory for update.
name_en	String	Compound metric name in English
name_ch	String	Compound metric name
description	String	Description
dimension_group	String	Statistical dimension ID, which cannot be changed during update
group_name	String	Granularity name, which is read-only.
group_code	String	Granularity code, which is read-only.
compound_type	String	Compound metric type Enumerated values: <ul style="list-style-type: none"> • EXPRESSION: expression • PERIODICITY_VALUED_COMPARISON: rate of growth compared to the previous period • INTERVAL_VALUED_COMPARISON: rate of growth compared to the same period last year

Parameter	Type	Description
comparison_type	String	Parallel comparison configuration. This parameter is mandatory when compound metric type is parallel growth rate. Enumerated values: <ul style="list-style-type: none"> • YEAR_TO_YEAR • MONTH_TO_MONTH • WEEK_TO_WEEK
metric_ids	Array of strings	Derivative metric. This parameter is mandatory when the compound metric type is PERIODICITY_VALUED_COMPARISON or INTERVAL_VALUED_COMPARISON .
metric_names	Array of strings	Indicates the indicator name.
compound_metric_ids	Array of strings	Compound metric information, which is an ID string
compound_metric_names	Array of strings	Compound metric name
cal_fn_ids	Array of strings	Reference function ID, which is a string
cal_exp	String	Calculation expression. This parameter is mandatory when the compound metric type is set to expression. It is in <code>\${index_id} + \${compound#index_id}</code> format, where <code>index_id</code> indicates the ID of the referenced derivative indicator and <code>compound#index_id</code> indicates the ID of the referenced composite indicator.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
data_type	String	Field type
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
monitor	MetricMonitorV O object	Indicates the metric monitoring information.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
summary_table_id	String	Summary table ID, which is a read-only string

Table 7-668 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-669 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-670 MetricMonitorVO

Parameter	Type	Description
id	String	ID, which is a string
other_metric_ids	Array of strings	ID of another metric, which is a string
other_metric_names	Array of strings	Name of another indicator. This parameter is read-only.
other_compound_metric_ids	Array of strings	ID of another composite index.
other_compound_metric_names	Array of strings	Name of another compound metric.
expression	String	Alarm expression.
metric_id	String	Mount pointer ID, which is a string

Parameter	Type	Description
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Type	Description
metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction

Status code: 400

Table 7-671 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-672 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-673 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query the composite metric list in pagination mode based on search criteria.

GET https://{endpoint}/v2/{project_id}/design/compound-metrics?offset=1&limit=10&name=com_

Example Responses

Status code: 200

This operation succeeds, and the returned data is a CompoundMetricVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "id": "1170056628536553472",
        "name_en": "com_compound_metric_test",
        "name_ch": "Composite Index Test",
        "description": "",
        "dimension_group":
"1169322847009742848,1169329693619625984.1169329693695123460.1169327565677182976",
        "group_name": "vendor and stroke_order.dim_dropoff_date_key",
        "group_code": null,
        "compound_type": "EXPRESSION",
        "comparison_type": null,
        "metric_ids": [ "1170007051066355712" ],
        "metric_names": null,

```

```
"compound_metric_ids" : [ ],
"compound_metric_names" : null,
"cal_fn_ids" : null,
"cal_exp" : "${1170007051066355712}/2",
"l1_id" : "1169309252771299328",
"l2_id" : "1169309374670356480,1169310587398889472",
"l3_id" : null,
"data_type" : "BIGINT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"status" : "PUBLISHED",
"create_time" : "2023-11-03T17:47:19+08:00",
"update_time" : "2023-11-03T17:55:12+08:00",
"approval_info" : {
  "id" : "1170056629291528192",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1170056628536553472",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2023-11-03T17:47:19+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2023-11-03T17:55:12+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "Fast Approval OK.",
  "directory_path" : null
},
"new_biz" : null,
"monitor" : null,
"l1" : "Urban traffic",
"l2" : "Itinerary records/Itinerary facts",
"l3" : null,
"summary_table_id" : "1170007052639219712"
}]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden


```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListCompoundMetricsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListCompoundMetricsRequest request = new ListCompoundMetricsRequest();
        try {
            ListCompoundMetricsResponse response = client.listCompoundMetrics(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8
import os
```

```
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListCompoundMetricsRequest()
        response = client.list_compound_metrics(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListCompoundMetricsRequest{}
    response, err := client.ListCompoundMetrics(request)
    if err == nil {
```

```

    fmt.Printf("%+v\n", response)
  } else {
    fmt.Println(err)
  }
}

```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a CompoundMetricVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.13.2 Creating a Compound Metric

Function

This API is used to create a compound metric.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/compound-metrics

Table 7-674 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-675 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Compound metric ID, which is a string. This parameter is mandatory for update.
name_en	Yes	String	Compound metric name in English
name_ch	Yes	String	Compound metric name
description	No	String	Description
dimension_group	Yes	String	Statistical dimension ID, which cannot be changed during update
compound_type	Yes	String	Compound metric type Enumerated values: <ul style="list-style-type: none"> ● EXPRESSION: expression ● PERIODICITY_VALUED_COMPARISON: rate of growth compared to the previous period ● INTERVAL_VALUED_COMPARISON: rate of growth compared to the same period last year
comparison_type	No	String	Parallel comparison configuration. This parameter is mandatory when compound metric type is parallel growth rate. Enumerated values: <ul style="list-style-type: none"> ● YEAR_TO_YEAR ● MONTH_TO_MONTH ● WEEK_TO_WEEK
metric_ids	No	Array of strings	Derivative metric. This parameter is mandatory when the compound metric type is PERIODICITY_VALUED_COMPARISON or INTERVAL_VALUED_COMPARISON .
metric_names	No	Array of strings	Indicates the indicator name.

Parameter	Mandatory	Type	Description
compound_metric_ids	No	Array of strings	Compound metric information, which is an ID string
compound_metric_names	No	Array of strings	Compound metric name
cal_fn_ids	No	Array of strings	Reference function ID, which is a string
cal_exp	No	String	Calculation expression. This parameter is mandatory when the compound metric type is set to expression. It is in $\{index_id\} + \{compound\#index_id\}$ format, where <code>index_id</code> indicates the ID of the referenced derivative indicator and <code>compound#index_id</code> indicates the ID of the referenced composite indicator.
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	Business object ID, which is a string
data_type	Yes	String	Field type
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> ● DRAFT: draft ● PUBLISH_DEVELOPING: to be reviewed ● PUBLISHED: released ● OFFLINE_DEVELOPING: to be reviewed ● OFFLINE: offline ● REJECT: rejected

Parameter	Mandatory	Type	Description
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManageVO object	Service version management. This parameter is read-only.
monitor	No	MetricMonitorVO object	Indicates the metric monitoring information.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Table 7-676 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-677 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Table 7-678 MetricMonitorVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
other_metric_ids	No	Array of strings	ID of another metric, which is a string
other_compo und_metric_ids	No	Array of strings	ID of another composite index.
expression	No	String	Alarm expression.
metric_id	No	String	Mount pointer ID, which is a string
front_configs	No	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Mandatory	Type	Description
metric_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction

Response Parameters

Status code: 200

Table 7-679 Response body parameters

Parameter	Type	Description
data	data object	Number of successfully created compound metrics

Table 7-680 data

Parameter	Type	Description
value	CompoundMetricVO object	Result of creating a compound metric

Table 7-681 CompoundMetricVO

Parameter	Type	Description
id	String	Compound metric ID, which is a string. This parameter is mandatory for update.
name_en	String	Compound metric name in English
name_ch	String	Compound metric name
description	String	Description
dimension_group	String	Statistical dimension ID, which cannot be changed during update
group_name	String	Granularity name, which is read-only.
group_code	String	Granularity code, which is read-only.
compound_type	String	Compound metric type Enumerated values: <ul style="list-style-type: none">● EXPRESSION: expression● PERIODICITY_VALUED_COMPARISON: rate of growth compared to the previous period● INTERVAL_VALUED_COMPARISON: rate of growth compared to the same period last year

Parameter	Type	Description
comparison_type	String	Parallel comparison configuration. This parameter is mandatory when compound metric type is parallel growth rate. Enumerated values: <ul style="list-style-type: none"> • YEAR_TO_YEAR • MONTH_TO_MONTH • WEEK_TO_WEEK
metric_ids	Array of strings	Derivative metric. This parameter is mandatory when the compound metric type is PERIODICITY_VALUED_COMPARISON or INTERVAL_VALUED_COMPARISON .
metric_names	Array of strings	Indicates the indicator name.
compound_metric_ids	Array of strings	Compound metric information, which is an ID string
compound_metric_names	Array of strings	Compound metric name
cal_fn_ids	Array of strings	Reference function ID, which is a string
cal_exp	String	Calculation expression. This parameter is mandatory when the compound metric type is set to expression. It is in <code>\${index_id} + \${compound#index_id}</code> format, where <code>index_id</code> indicates the ID of the referenced derivative indicator and <code>compound#index_id</code> indicates the ID of the referenced composite indicator.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
data_type	String	Field type
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
monitor	MetricMonitorV O object	Indicates the metric monitoring information.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
summary_table_id	String	Summary table ID, which is a read-only string

Table 7-682 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-683 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-684 MetricMonitorVO

Parameter	Type	Description
id	String	ID, which is a string
other_metric_ids	Array of strings	ID of another metric, which is a string
other_metric_names	Array of strings	Name of another indicator. This parameter is read-only.
other_compound_metric_ids	Array of strings	ID of another composite index.
other_compound_metric_names	Array of strings	Name of another compound metric.
expression	String	Alarm expression.
metric_id	String	Mount pointer ID, which is a string

Parameter	Type	Description
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Type	Description
metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction

Status code: 400

Table 7-685 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-686 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-687 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a compound metric based on the following parameters.

POST https://{endpoint}/v2/{project_id}/design/compound-metrics

```
{
  "id" : 0,
  "name_ch" : "Test a compound metric.",
  "name_en" : "test_compound_index",
  "l3_id" : "1169309252771299328",
  "dimension_group" : "1169322847009742848",
  "data_type" : "STRING",
  "compound_type" : "EXPRESSION",
  "monitor" : {
    "id" : null,
    "other_metric_ids" : [ ],
    "other_compound_metric_ids" : [ ],
    "expression" : "",
    "metric_id" : null,
    "metric_type" : "COMPOUND_METRIC"
  },
  "description" : "",
  "metric_ids" : [ "1300493917942329344", "1268168163686780928", "1181167466668310528" ],
  "compound_metric_ids" : [ ],
  "cal_exp" : "${1300493917942329344}+${1268168163686780928}+${1181167466668310528}"
}
```

Example Responses

Status code: 200

The operation succeeds, and **CompoundMetricVO** is returned.

```
{
  "value": {
    "id": "1300537267533774848",
    "name_en": "test_compound_index",
    "name_ch": "Test a compound metric.",
    "description": "",
    "dimension_group": "1169322847009742848",
    "group_name": null,
    "group_code": null,
    "compound_type": "EXPRESSION",
    "comparison_type": null,
    "metric_ids": [ "1300493917942329344", "1268168163686780928", "1181167466668310528" ],
    "metric_names": null,
    "compound_metric_ids": [ ],
    "compound_metric_names": null,
    "cal_fn_ids": null,
    "cal_exp": "${1300493917942329344}+${1268168163686780928}+${1181167466668310528}",
    "l1_id": null,
    "l2_id": null,
    "l3_id": "1169309252771299328",
    "data_type": "STRING",
    "create_by": "test_user",
    "update_by": "test_user",
    "status": "DRAFT",
    "create_time": "2024-10-28T19:10:47+08:00",
    "update_time": "2024-10-28T19:20:23.085+08:00",
    "approval_info": null,
    "new_biz": null,
    "monitor": null,
    "l1": null,
    "l2": null,
    "l3": null,
    "summary_table_id": null
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a compound metric based on the following parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateDesignCompoundMetricSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateDesignCompoundMetricRequest request = new CreateDesignCompoundMetricRequest();
        CompoundMetricVO body = new CompoundMetricVO();
        MetricMonitorVO monitorbody = new MetricMonitorVO();
        monitorbody.withExpression("")
            .withMetricType(MetricMonitorVO.MetricTypeEnum.fromValue("COMPOUND_METRIC"));
        List<String> listbodyMetricIds = new ArrayList<>();
        listbodyMetricIds.add("1300493917942329344");
        listbodyMetricIds.add("1268168163686780928");
        listbodyMetricIds.add("1181167466668310528");
        body.withMonitor(monitorbody);
        body.withDataType("STRING");
        body.withL3Id("1169309252771299328");
        body.withCalExp("${1300493917942329344}+${1268168163686780928}+${1181167466668310528}");
        body.withMetricIds(listbodyMetricIds);
        body.withCompoundType(CompoundMetricVO.CompoundTypeEnum.fromValue("EXPRESSION"));
        body.withDimensionGroup("1169322847009742848");
        body.withDescription("");
        body.withNameCh("Test a compound metric.");
        body.withNameEn("test_compound_index");
        body.withId("0");
        request.withBody(body);
        try {
            CreateDesignCompoundMetricResponse response = client.createDesignCompoundMetric(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
        }
    }
}
```



```
        System.out.println(e.getStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Create a compound metric based on the following parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateDesignCompoundMetricRequest()
        monitorbody = MetricMonitorVO(
            expression="",
            metric_type="COMPOUND_METRIC"
        )
        listMetricIdsbody = [
            "1300493917942329344",
            "1268168163686780928",
            "1181167466668310528"
        ]
        request.body = CompoundMetricVO(
            monitor=monitorbody,
            data_type="STRING",
            l3_id="1169309252771299328",
            cal_exp="${1300493917942329344}+${1268168163686780928}+${1181167466668310528}",
            metric_ids=listMetricIdsbody,
            compound_type="EXPRESSION",
            dimension_group="1169322847009742848",
            description="",
            name_ch="Test a compound metric.",
            name_en="test_compound_index",
            id="0"
        )
        response = client.create_design_compound_metric(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Create a compound metric based on the following parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateDesignCompoundMetricRequest{}
    expressionMonitor := ""
    metricTypeMonitor := model.GetMetricMonitorVoMetricTypeEnum().COMPOUND_METRIC
    monitorbody := &model.MetricMonitorVo{
        Expression: &expressionMonitor,
        MetricType: &metricTypeMonitor,
    }
    var listMetricIdsbody = []string{
        "1300493917942329344",
        "1268168163686780928",
        "1181167466668310528",
    }
    calExpCompoundMetricVo := "${1300493917942329344}+${1268168163686780928}+
    ${1181167466668310528}"
    descriptionCompoundMetricVo := ""
    idCompoundMetricVo := "0"
    request.Body = &model.CompoundMetricVo{
        Monitor: monitorbody,
        DataType: "STRING",
        L3Id: "1169309252771299328",
        CalExp: &calExpCompoundMetricVo,
        MetricIds: &listMetricIdsbody,
        CompoundType: model.GetCompoundMetricVoCompoundTypeEnum().EXPRESSION,
        DimensionGroup: "1169322847009742848",
        Description: &descriptionCompoundMetricVo,
        NameCh: "Test a compound metric.",
        NameEn: "test_compound_index",
        Id: &idCompoundMetricVo,
    }
    response, err := client.CreateDesignCompoundMetric(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
```

```
    fmt.Println(err)
  }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds, and CompoundMetricVO is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.13.3 Updating a Compound Metric

Function

This API is used to update a compound metric.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/compound-metrics

Table 7-688 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-689 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Compound metric ID, which is a string. This parameter is mandatory for update.
name_en	Yes	String	Compound metric name in English
name_ch	Yes	String	Compound metric name
description	No	String	Description
dimension_group	Yes	String	Statistical dimension ID, which cannot be changed during update
compound_type	Yes	String	Compound metric type Enumerated values: <ul style="list-style-type: none"> ● EXPRESSION: expression ● PERIODICITY_VALUED_COMPARISON: rate of growth compared to the previous period ● INTERVAL_VALUED_COMPARISON: rate of growth compared to the same period last year
comparison_type	No	String	Parallel comparison configuration. This parameter is mandatory when compound metric type is parallel growth rate. Enumerated values: <ul style="list-style-type: none"> ● YEAR_TO_YEAR ● MONTH_TO_MONTH ● WEEK_TO_WEEK
metric_ids	No	Array of strings	Derivative metric. This parameter is mandatory when the compound metric type is PERIODICITY_VALUED_COMPARISON or INTERVAL_VALUED_COMPARISON .
metric_names	No	Array of strings	Indicates the indicator name.

Parameter	Mandatory	Type	Description
compound_metric_ids	No	Array of strings	Compound metric information, which is an ID string
compound_metric_names	No	Array of strings	Compound metric name
cal_fn_ids	No	Array of strings	Reference function ID, which is a string
cal_exp	No	String	Calculation expression. This parameter is mandatory when the compound metric type is set to expression. It is in $\{index_id\} + \{compound\#index_id\}$ format, where <code>index_id</code> indicates the ID of the referenced derivative indicator and <code>compound#index_id</code> indicates the ID of the referenced composite indicator.
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	Business object ID, which is a string
data_type	Yes	String	Field type
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> ● DRAFT: draft ● PUBLISH_DEVELOPING: to be reviewed ● PUBLISHED: released ● OFFLINE_DEVELOPING: to be reviewed ● OFFLINE: offline ● REJECT: rejected

Parameter	Mandatory	Type	Description
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionMa nageVO object	Service version management. This parameter is read-only.
monitor	No	MetricMonit orVO object	Indicates the metric monitoring information.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Table 7-690 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-691 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Table 7-692 MetricMonitorVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
other_metric_ids	No	Array of strings	ID of another metric, which is a string
other_compo und_metric_ids	No	Array of strings	ID of another composite index.
expression	No	String	Alarm expression.
metric_id	No	String	Mount pointer ID, which is a string
front_configs	No	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Mandatory	Type	Description
metric_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction

Response Parameters

Status code: 200

Table 7-693 Response body parameters

Parameter	Type	Description
data	data object	Number of successfully updated compound metrics

Table 7-694 data

Parameter	Type	Description
value	CompoundMetricVO object	Result of updating compound metrics

Table 7-695 CompoundMetricVO

Parameter	Type	Description
id	String	Compound metric ID, which is a string. This parameter is mandatory for update.
name_en	String	Compound metric name in English
name_ch	String	Compound metric name
description	String	Description
dimension_group	String	Statistical dimension ID, which cannot be changed during update
group_name	String	Granularity name, which is read-only.
group_code	String	Granularity code, which is read-only.
compound_type	String	Compound metric type Enumerated values: <ul style="list-style-type: none">● EXPRESSION: expression● PERIODICITY_VALUED_COMPARISON: rate of growth compared to the previous period● INTERVAL_VALUED_COMPARISON: rate of growth compared to the same period last year

Parameter	Type	Description
comparison_type	String	Parallel comparison configuration. This parameter is mandatory when compound metric type is parallel growth rate. Enumerated values: <ul style="list-style-type: none"> • YEAR_TO_YEAR • MONTH_TO_MONTH • WEEK_TO_WEEK
metric_ids	Array of strings	Derivative metric. This parameter is mandatory when the compound metric type is PERIODICITY_VALUED_COMPARISON or INTERVAL_VALUED_COMPARISON .
metric_names	Array of strings	Indicates the indicator name.
compound_metric_ids	Array of strings	Compound metric information, which is an ID string
compound_metric_names	Array of strings	Compound metric name
cal_fn_ids	Array of strings	Reference function ID, which is a string
cal_exp	String	Calculation expression. This parameter is mandatory when the compound metric type is set to expression. It is in <code>\${index_id} + \${compound#index_id}</code> format, where <code>index_id</code> indicates the ID of the referenced derivative indicator and <code>compound#index_id</code> indicates the ID of the referenced composite indicator.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
data_type	String	Field type
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
monitor	MetricMonitorV O object	Indicates the metric monitoring information.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
summary_table_id	String	Summary table ID, which is a read-only string

Table 7-696 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-697 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-698 MetricMonitorVO

Parameter	Type	Description
id	String	ID, which is a string
other_metric_ids	Array of strings	ID of another metric, which is a string
other_metric_names	Array of strings	Name of another indicator. This parameter is read-only.
other_compound_metric_ids	Array of strings	ID of another composite index.
other_compound_metric_names	Array of strings	Name of another compound metric.
expression	String	Alarm expression.
metric_id	String	Mount pointer ID, which is a string

Parameter	Type	Description
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Type	Description
metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction

Status code: 400

Table 7-699 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-700 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-701 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Update a compound metric based on the following parameters.

PUT https://{endpoint}/v2/{project_id}/design/compound-metrics

```
{
  "id": "1300537267533774848",
  "name_ch": "Test a compound metric.",
  "name_en": "test_compound_index",
  "l3_id": "1169309252771299328",
  "dimension_group": "1169322847009742848",
  "data_type": "STRING",
  "compound_type": "EXPRESSION",
  "monitor": {
    "id": null,
    "other_metric_ids": [ ],
    "other_compound_metric_ids": [ ],
    "expression": "",
    "metric_id": "1300537267533774848",
    "metric_type": "COMPOUND_METRIC"
  },
  "description": "",
  "metric_ids": [ "1300493917942329344", "1268168163686780928", "1181167466668310528" ],
  "compound_metric_ids": [ ],
  "cal_exp": "${1300493917942329344}+${1268168163686780928}+${1181167466668310528}"
}
```

Example Responses

Status code: 200

The operation succeeds, and **CompoundMetricVO** is returned.

```
{
  "value": {
    "id": "1300537267533774848",
    "name_en": "test_compound_index",
    "name_ch": "Test a compound metric.",
    "description": "",
    "dimension_group": "1169322847009742848",
    "group_name": null,
    "group_code": null,
    "compound_type": "EXPRESSION",
    "comparison_type": null,
    "metric_ids": [ "1300493917942329344", "1268168163686780928", "1181167466668310528" ],
    "metric_names": null,
    "compound_metric_ids": [ ],
    "compound_metric_names": null,
    "cal_fn_ids": null,
    "cal_exp": "${1300493917942329344}+${1268168163686780928}+${1181167466668310528}",
    "l1_id": null,
    "l2_id": null,
    "l3_id": "1169309252771299328",
    "data_type": "STRING",
    "create_by": "test_user",
    "update_by": "test_user",
    "status": "DRAFT",
    "create_time": "2024-10-28T19:10:47+08:00",
    "update_time": "2024-10-28T19:20:23.085+08:00",
    "approval_info": null,
    "new_biz": null,
    "monitor": null,
    "l1": null,
    "l2": null,
    "l3": null,
    "summary_table_id": null
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update a compound metric based on the following parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class UpdateDesignCompoundMetricSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateDesignCompoundMetricRequest request = new UpdateDesignCompoundMetricRequest();
        CompoundMetricVO body = new CompoundMetricVO();
        MetricMonitorVO monitorbody = new MetricMonitorVO();
        monitorbody.withExpression("")
            .withMetricId("1300537267533774848")
            .withMetricType(MetricMonitorVO.MetricTypeEnum.fromValue("COMPOUND_METRIC"));
        List<String> listbodyMetricIds = new ArrayList<>();
        listbodyMetricIds.add("1300493917942329344");
        listbodyMetricIds.add("1268168163686780928");
        listbodyMetricIds.add("1181167466668310528");
        body.withMonitor(monitorbody);
        body.withDataType("STRING");
        body.withL3Id("1169309252771299328");
        body.withCalExp("${1300493917942329344}+${1268168163686780928}+${1181167466668310528}");
        body.withMetricIds(listbodyMetricIds);
        body.withCompoundType(CompoundMetricVO.CompoundTypeEnum.fromValue("EXPRESSION"));
        body.withDimensionGroup("1169322847009742848");
        body.withDescription("");
        body.withNameCh("Test a compound metric.");
        body.withNameEn("test_compound_index");
        body.withId("1300537267533774848");
        request.withBody(body);
        try {
            UpdateDesignCompoundMetricResponse response = client.updateDesignCompoundMetric(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
```



```
e.printStackTrace();
System.out.println(e.getStatusCode());
System.out.println(e.getRequestId());
System.out.println(e.getErrorCode());
System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Update a compound metric based on the following parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateDesignCompoundMetricRequest()
        monitorbody = MetricMonitorVO(
            expression="",
            metric_id="1300537267533774848",
            metric_type="COMPOUND_METRIC"
        )
        listMetricIdsbody = [
            "1300493917942329344",
            "1268168163686780928",
            "1181167466668310528"
        ]
        request.body = CompoundMetricVO(
            monitor=monitorbody,
            data_type="STRING",
            l3_id="1169309252771299328",
            cal_exp="${1300493917942329344}+${1268168163686780928}+${1181167466668310528}",
            metric_ids=listMetricIdsbody,
            compound_type="EXPRESSION",
            dimension_group="1169322847009742848",
            description="",
            name_ch="Test a compound metric.",
            name_en="test_compound_index",
            id="1300537267533774848"
        )
        response = client.update_design_compound_metric(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
```

```
print(e.error_code)
print(e.error_msg)
```

Go

Update a compound metric based on the following parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateDesignCompoundMetricRequest{
        expressionMonitor:= ""
        metricIdMonitor:= "1300537267533774848"
        metricTypeMonitor:= model.GetMetricMonitorVoMetricTypeEnum().COMPOUND_METRIC
        monitorbody := &model.MetricMonitorVo{
            Expression: &expressionMonitor,
            MetricId: &metricIdMonitor,
            MetricType: &metricTypeMonitor,
        }
    }
    var listMetricIdsbody = []string{
        "1300493917942329344",
        "1268168163686780928",
        "1181167466668310528",
    }
    calExpCompoundMetricVo:= "${1300493917942329344}+${1268168163686780928}+
    ${1181167466668310528}"
    descriptionCompoundMetricVo:= ""
    idCompoundMetricVo:= "1300537267533774848"
    request.Body = &model.CompoundMetricVo{
        Monitor: monitorbody,
        DataType: "STRING",
        L3Id: "1169309252771299328",
        CalExp: &calExpCompoundMetricVo,
        MetricIds: &listMetricIdsbody,
        CompoundType: model.GetCompoundMetricVoCompoundTypeEnum().EXPRESSION,
        DimensionGroup: "1169322847009742848",
        Description: &descriptionCompoundMetricVo,
        NameCh: "Test a compound metric.",
        NameEn: "test_compound_index",
        Id: &idCompoundMetricVo,
```

```
}
response, err := client.UpdateDesignCompoundMetric(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds, and CompoundMetricVO is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.13.4 Deleting Compound Metrics

Function

This API is used to delete compound metrics with specified IDs.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/compound-metrics

Table 7-702 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-703 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> • PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-704 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-705 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-706 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-707 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-708 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Delete compound metrics based on the input parameters. Only compound metrics in the draft, offline, or rejected state can be deleted.

```
DELETE https://{endpoint}/v2/{project_id}/design/compound-metrics
```

```
{  
  "ids" : [ "1227990857618227200" ]  
}
```

Example Responses

Status code: 200

The operation succeeds, and the number of deleted compound metrics is returned.

```
{  
  "value" : 1  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Delete compound metrics based on the input parameters. Only compound metrics in the draft, offline, or rejected state can be deleted.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class DeleteDesignCompoundMetricSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()
```

```
.withProjectId(projectId)
.withAk(ak)
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
DeleteDesignCompoundMetricRequest request = new DeleteDesignCompoundMetricRequest();
IdsParam body = new IdsParam();
List<String> listbodyIds = new ArrayList<>();
listbodyIds.add("1227990857618227200");
body.withIds(listbodyIds);
request.withBody(body);
try {
    DeleteDesignCompoundMetricResponse response = client.deleteDesignCompoundMetric(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Delete compound metrics based on the input parameters. Only compound metrics in the draft, offline, or rejected state can be deleted.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteDesignCompoundMetricRequest()
        listbody = [
            "1227990857618227200"
        ]
        request.body = IdsParam(
            ids=listbody
        )
```

```
response = client.delete_design_compound_metric(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Delete compound metrics based on the input parameters. Only compound metrics in the draft, offline, or rejected state can be deleted.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteDesignCompoundMetricRequest{}
    var listIdsbody = []string{
        "1227990857618227200",
    }
    request.Body = &model.IdsParam{
        Ids: listIdsbody,
    }
    response, err := client.DeleteDesignCompoundMetric(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds, and the number of deleted compound metrics is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.13.5 Viewing Composite Metric Details

Function

This API is used to obtain details about a composite index by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/compound-metrics/{id}

Table 7-709 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-710 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-711 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-712 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-713 data

Parameter	Type	Description
value	CompoundMetricVO object	Returned data information.

Table 7-714 CompoundMetricVO

Parameter	Type	Description
id	String	Compound metric ID, which is a string. This parameter is mandatory for update.
name_en	String	Compound metric name in English
name_ch	String	Compound metric name
description	String	Description
dimension_group	String	Statistical dimension ID, which cannot be changed during update
group_name	String	Granularity name, which is read-only.
group_code	String	Granularity code, which is read-only.
compound_type	String	Compound metric type Enumerated values: <ul style="list-style-type: none"> ● EXPRESSION: expression ● PERIODICITY_VALUED_COMPARISON: rate of growth compared to the previous period ● INTERVAL_VALUED_COMPARISON: rate of growth compared to the same period last year
comparison_type	String	Parallel comparison configuration. This parameter is mandatory when compound metric type is parallel growth rate. Enumerated values: <ul style="list-style-type: none"> ● YEAR_TO_YEAR ● MONTH_TO_MONTH ● WEEK_TO_WEEK
metric_ids	Array of strings	Derivative metric. This parameter is mandatory when the compound metric type is PERIODICITY_VALUED_COMPARISON or INTERVAL_VALUED_COMPARISON .

Parameter	Type	Description
metric_names	Array of strings	Indicates the indicator name.
compound_metric_ids	Array of strings	Compound metric information, which is an ID string
compound_metric_names	Array of strings	Compound metric name
cal_fn_ids	Array of strings	Reference function ID, which is a string
cal_exp	String	Calculation expression. This parameter is mandatory when the compound metric type is set to expression. It is in <code>\${index_id} + \${compound#index_id}</code> format, where <code>index_id</code> indicates the ID of the referenced derivative indicator and <code>compound#index_id</code> indicates the ID of the referenced composite indicator.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
data_type	String	Field type
create_by	String	Creator.
update_by	String	Person who updates the information.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
monitor	MetricMonitorV O object	Indicates the metric monitoring information.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
summary_table_id	String	Summary table ID, which is a read-only string

Table 7-715 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.

Parameter	Type	Description
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-716 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-717 MetricMonitorVO

Parameter	Type	Description
id	String	ID, which is a string
other_metric_ids	Array of strings	ID of another metric, which is a string
other_metric_names	Array of strings	Name of another indicator. This parameter is read-only.
other_compound_metric_ids	Array of strings	ID of another composite index.
other_compound_metric_names	Array of strings	Name of another compound metric.
expression	String	Alarm expression.
metric_id	String	Mount pointer ID, which is a string

Parameter	Type	Description
front_configs	String	Frontend expression configuration, which is used for front-end data restoration.

Parameter	Type	Description
metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction

Status code: 400

Table 7-718 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-719 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-720 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query details about a composite index based on the composite index ID.

GET https://{endpoint}/v2/{project_id}/design/compound-metrics/1170056628536553472

Example Responses

Status code: 200

This operation is successful, and the returned data is CompoundMetricVO details.

```
{
  "data" : {
    "value" : {
      "id" : "1170056628536553472",
      "name_en" : "com_compound_metric_test",
      "name_ch" : "Composite Index Test",
      "description" : "",
      "dimension_group" :
      "1169322847009742848,1169329693619625984.1169329693695123460.1169327565677182976",
      "group_name" : "vendor and stroke_order.dim_dropoff_date_key",
      "group_code" : "dim_vendor,fact_stroke_order.dim_dropoff",
      "compound_type" : "EXPRESSION",
      "comparison_type" : null,
      "metric_ids" : [ "1170007051066355712" ],
      "metric_names" : [ "Total fare (supplier, itinerary order. Drop-off time)" ],
      "compound_metric_ids" : [ ],
      "compound_metric_names" : null,
      "cal_fn_ids" : null,
    }
  }
}
```

```
"cal_exp" : "${1170007051066355712}/2",
"l1_id" : "1169309252771299328",
"l2_id" : "1169309374670356480,1169310587398889472",
"l3_id" : null,
"data_type" : "BIGINT",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"status" : "PUBLISHED",
"create_time" : "2023-11-03T17:47:19+08:00",
"update_time" : "2023-11-03T17:55:12+08:00",
"approval_info" : {
  "id" : "1170056629291528192",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1170056628536553472",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2023-11-03T17:47:19+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2023-11-03T17:55:12+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "Fast Approval OK.",
  "directory_path" : null
},
"new_biz" : null,
"monitor" : {
  "id" : "1170056628612050944",
  "other_metric_ids" : [ "1170007051066355712" ],
  "other_metric_names" : [ "Total fare (supplier, itinerary order. Drop-off time)" ],
  "other_compound_metric_ids" : [ ],
  "other_compound_metric_names" : null,
  "expression" : "${1170007051066355712}/2 < 0",
  "metric_id" : "1170056628536553472",
  "front_configs" : null,
  "metric_type" : "COMPOUND_METRIC"
},
"l1" : "Urban traffic",
"l2" : "Itinerary records/Itinerary facts",
"l3" : null,
"summary_table_id" : "1170007052639219712"
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
```

```
"error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowCompoundMetricByIdSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        ShowCompoundMetricByIdRequest request = new ShowCompoundMetricByIdRequest();  
        request.withId("{id}");  
        try {  
            ShowCompoundMetricByIdResponse response = client.showCompoundMetricById(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

```
}  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = ShowCompoundMetricByIdRequest()  
        request.id = "{id}"  
        response = client.show_compound_metric_by_id(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()
```

```
client := dataartsstudio.NewDataArtsStudioClient(  
    dataartsstudio.DataArtsStudioClientBuilder().  
        WithRegion(region.ValueOf("<YOUR REGION>")).  
        WithCredential(auth).  
        Build())  
  
request := &model.ShowCompoundMetricByIdRequest{}  
request.Id = "{id}"  
response, err := client.ShowCompoundMetricById(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is CompoundMetricVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.14 Dimensions

7.14.1 Search Dimension

Function

Search for dimension information based on the Chinese and English names, description, creator, reviewer, status, l3Id, derivative indicator ID list, and modification time.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/dimensions

Table 7-721 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-722 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be approved • PUBLISHED: released • OFFLINE_DEVELOPING: to be approved • OFFLINE: offline • REJECT: rejected
l2_id	No	String	ID of subject area l2, which is a string
derivative_ids	No	Array of strings	IDs of compound metrics based on which dimensions are queried. The value is a string.
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Mandatory	Type	Description
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
fact_logic_id	No	String	Fact table ID, which is a string
dimension_type	No	String	Dimension type. Options: <ul style="list-style-type: none">• COMMON: common dimension• LOOKUP: code table dimension• HIERARCHIES: hierarchy dimension
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
biz_catalog_id	No	String	ID of the service catalog to which the belongs.

Request Parameters

Table 7-723 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-724** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-725 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-726 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of DimensionVO objects	DimensionVO information.

Table 7-727 DimensionVO

Parameter	Type	Description
id	String	ID string (It is read-only for creation and mandatory for update.)
name_en	String	Dimension name in English
dimension_type	String	Dimension type (The dimension type can be changed from a common dimension to a hierarchical dimension during an update, and cannot be changed in other scenarios.) Enumerated values: <ul style="list-style-type: none"> ● COMMON: common dimension ● LOOKUP: lookup table dimension ● HIERARCHIES: hierarchical dimension
name_ch	String	Dimension name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.

Parameter	Type	Description
code_table	CodeTableVO object	Reference lookup table, which is read-only.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
attributes	Array of DimensionAttributeVO objects	Dimension attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
datasource	BizDataSourceRelationVO object	Data source information, which is mandatory for creation or update
owner	String	Asset owner, which is mandatory for creating or updating an asset
obs_location	String	Foreign Table Path
table_type	String	Table type
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
configs	String	Other Configurations

Parameter	Type	Description
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	String	Model ID
model	WorkspaceVO object	Model information

Table 7-728 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.
create_by	String	Creator.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldVO objects	Code list attribute information.

Table 7-729 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.

Parameter	Type	Description
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-730 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Table 7-731 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.

Parameter	Type	Description
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-732 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-733 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.

Table 7-734 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-735 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-736 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-737 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-738 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.

Parameter	Type	Description
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-739 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.

Parameter	Type	Description
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-740 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection

Parameter	Type	Description
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-741 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-742 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-743 BizDatasourceRelationVO

Parameter	Type	Description
id	String	ID, which is a string
biz_id	String	Business object information, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_id	String	Data connection ID.
dw_name	String	Data connection name, which is read-only.
db_name	String	Indicates the database name.

Parameter	Type	Description
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.

Table 7-744 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-745 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400**Table 7-746** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-747 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-748 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query the dimension list in pagination mode based on search criteria.

```
GET https://{endpoint}/v2/{project_id}/design/dimensions?offset=1&limit=10
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a DimensionVO array and the total number of records.

```
{
  "data" : {
    "value" : {
```

```
"total" : 1,
"records" : [ {
  "id" : "1222930977286987776",
  "name_en" : "dim_test_czh_0328",
  "dimension_type" : "COMMON",
  "name_ch" : "test_czh_0328",
  "description" : "None",
  "create_by" : "test_uesr",
  "update_by" : null,
  "code_table_id" : null,
  "code_table" : null,
  "l1_id" : "1194966710038474752",
  "l2_id" : null,
  "l3_id" : null,
  "hierarchies" : [ ],
  "status" : "PUBLISHED",
  "create_time" : "2024-03-28T15:31:06+08:00",
  "update_time" : "2024-03-28T15:31:06+08:00",
  "approval_info" : {
    "id" : "1222930978226511872",
    "tenant_id" : null,
    "name_ch" : null,
    "name_en" : null,
    "biz_id" : "1222930977286987776",
    "biz_type" : null,
    "biz_info" : null,
    "biz_info_obj" : null,
    "biz_version" : 0,
    "biz_status" : "PUBLISHED",
    "approval_status" : "APPROVED",
    "approval_type" : null,
    "submit_time" : "2024-03-28T15:31:06+08:00",
    "create_by" : null,
    "l1" : null,
    "l2" : null,
    "l3" : null,
    "approval_time" : "2024-03-28T15:31:06+08:00",
    "approver" : "test_uesr",
    "email" : null,
    "msg" : "Fast Approval OK.",
    "directory_path" : null
  },
  "new_biz" : null,
  "l1" : "test_czh_catalog",
  "l2" : null,
  "l3" : null,
  "attributes" : [ {
    "id" : "1222930977370873856",
    "dimension_id" : "1222930977286987776",
    "code_table_field_id" : null,
    "name_en" : "dim_test_czh_0328_key",
    "name_ch" : "test_czh_0328",
    "description" : "",
    "create_by" : "test_uesr",
    "data_type" : "BIGINT",
    "domain_type" : "NUMBER",
    "data_type_extend" : null,
    "is_primary_key" : true,
    "is_biz_primary" : false,
    "is_partition_key" : false,
    "ordinal" : 1,
    "not_null" : false,
    "stand_row_id" : null,
    "stand_row_name" : null,
    "quality_infos" : null,
    "secrecy_levels" : [ ],
    "status" : null,
    "create_time" : "2024-03-28T15:31:06+08:00",
    "update_time" : "2024-03-28T15:31:06+08:00",
```

```
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "aa",
  "fd_name_en" : "aa",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : ""
} ]
}, {
  "id" : "1222930977370873857",
  "dimension_id" : "1222930977286987776",
  "code_table_field_id" : null,
  "name_en" : "aaa",
  "name_ch" : "aaa",
  "description" : "",
  "create_by" : "test_uesr",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "ordinal" : 2,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "secrecy_levels" : [ ],
  "status" : null,
  "create_time" : "2024-03-28T15:31:06+08:00",
  "update_time" : "2024-03-28T15:31:06+08:00",
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : ""
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : ""
  } ]
}, {
  "id" : "1222930977370873858",
  "dimension_id" : "1222930977286987776",
  "code_table_field_id" : null,
  "name_en" : "bbb",
  "name_ch" : "bbb",
  "description" : "",
  "create_by" : "test_uesr",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "ordinal" : 3,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "secrecy_levels" : [ ],
  "status" : null,
  "create_time" : "2024-03-28T15:31:06+08:00",
```

```
"update_time": "2024-03-28T15:31:06+08:00",
"alias": "",
"self_defined_fields": [ {
  "fd_name_ch": "aa",
  "fd_name_en": "aa",
  "not_null": false,
  "fd_value": ""
}, {
  "fd_name_ch": "bb",
  "fd_name_en": "bb",
  "not_null": false,
  "fd_value": ""
} ]
}],
"mappings": null,
"datasource": {
  "id": "1222930977387651072",
  "biz_id": "1222930977286987776",
  "biz_type": "DIMENSION",
  "dw_type": "DWS",
  "dw_id": "8259af52bd294f98920ebce75a426391",
  "dw_name": null,
  "db_name": "bi",
  "queue_name": "default",
  "schema": ""
},
"owner": "afcaca",
"table_type": "MANAGED",
"distribute": null,
"distribute_column": null,
"obs_location": "",
"alias": "",
"configs": "{}",
"self_defined_fields": [ {
  "fd_name_ch": "User-defined item 1",
  "fd_name_en": "selfDefine1",
  "not_null": false,
  "fd_value": ""
}, {
  "fd_name_ch": "User-defined item 2",
  "fd_name_en": "selfDefine2",
  "not_null": true,
  "fd_value": "adada"
} ],
"dev_version": null,
"prod_version": null,
"dev_version_name": null,
"prod_version_name": null,
"env_type": "PROD_TYPE"
}]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
```

```
"error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListDimensionsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListDimensionsRequest request = new ListDimensionsRequest();
        try {
            ListDimensionsResponse response = client.listDimensions(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```


Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListDimensionsRequest()
        response = client.list_dimensions(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
```

```
Build()  
  
request := &model.ListDimensionsRequest{}  
response, err := client.ListDimensions(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a DimensionVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.14.2 Creating a Dimension

Function

This API is used to create a dimension.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/dimensions

Table 7-749 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-750 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID string (It is read-only for creation and mandatory for update.)
name_en	Yes	String	Dimension name in English
dimension_type	Yes	String	Dimension type (The dimension type can be changed from a common dimension to a hierarchical dimension during an update, and cannot be changed in other scenarios.) Enumerated values: <ul style="list-style-type: none"> ● COMMON: common dimension ● LOOKUP: lookup table dimension ● HIERARCHIES: hierarchical dimension
name_ch	Yes	String	Dimension name
description	Yes	String	Description.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
code_table_id	No	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	Business object ID, which is a string
hierarchies	No	Array of DimensionHierarchiesVO objects	Level attribute.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
attributes	Yes	Array of DimensionAttributeVO objects	Dimension attribute information.
mappings	No	Array of TableMappingVO objects	Table mapping information.

Parameter	Mandatory	Type	Description
datasource	Yes	BizDataSourceRelationVO object	Data source information, which is mandatory for creation or update
owner	Yes	String	Asset owner, which is mandatory for creating or updating an asset
obs_location	No	String	Foreign Table Path
table_type	No	String	Table type
distribute	No	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none"> HASH: Hashes specified columns and distributes data to specified DNs through mapping. REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	No	String	DISTRIBUTE BY HASH column.
alias	No	String	Alias
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.
configs	No	String	Other Configurations
model_id	No	String	Model ID
model	No	WorkspaceVO object	Model information

Table 7-751 DimensionHierarchiesVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	No	String	Level name.
attrs	No	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.

Parameter	Mandatory	Type	Description
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-752 HierarchiesAttrVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
hierarchies_id	No	String	Level ID, which is a string
attr_id	No	String	Attribute ID, which is a string
level	No	Integer	Indicates the layer.
attr_name_en	No	String	Referenced attribute code.
detail_attr_ids	No	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	No	Array of strings	Details attribute in English.

Table 7-753 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-754 DimensionAttributeVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
code_table_field_id	No	String	Lookup table attribute ID, which is a string
name_en	Yes	String	Field name.
name_ch	Yes	String	Service attribute.
description	No	String	Description.
create_by	No	String	Creator.
data_type	Yes	String	Field type
data_type_extend	No	String	Extended field of the data type.
is_primary_key	Yes	Boolean	Indicates whether a key is a primary key.
is_biz_primary	No	Boolean	Indicates whether it is a service primary key.
is_partition_key	No	Boolean	Indicates whether to partition.
ordinal	Yes	Integer	Sequence number.
not_null	No	Boolean	Indicates whether the value is empty.
stand_row_id	No	String	ID of the associated data standard, which is a string

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
alias	No	String	Alias
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.

Table 7-755 TableMappingVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name.
description	No	String	Description.
target_table_id	No	String	Destination table ID, which is a string
src_model_id	No	String	ID of the relational model for the source table. The value is a string.
src_model_name	No	String	Source model name.
view_text	No	String	Source of the collected view. The dws view is used reversely.
target_table_name	No	String	Name of the destination table.
details	No	Array of TableMappingDetailVO objects	Details.

Parameter	Mandatory	Type	Description
source_tables	No	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	No	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	No	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	No	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-756 TableMappingDetailVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
mapping_id	No	String	Name.
target_attr_id	No	String	ID of the destination attribute, which is a string
target_attr_name	Yes	String	Sort by destination field.
src_table_ids	No	String	Source table ID.
src_attr_ids	No	String	ID of a field in the source table.
remark	No	String	Description.

Parameter	Mandatory	Type	Description
create_time	No	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	No	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
target_attr	No	Object	Target attribute.

Table 7-757 MappingSourceTableVO

Parameter	Mandatory	Type	Description
table1_id	Yes	String	Table 1 ID, which is a string
table2_id	No	String	Table 2 ID, which is a string
table1_name	Yes	String	Name of table 1.
table2_name	No	String	Name of table 2.
join_type	Yes	String	Association type. Options: <ul style="list-style-type: none"> • LEFT: left outer join • RIGHT: right outer join • INNER: inner join • FULL: full connection
join_fields	Yes	Array of MappingJoinFieldVO objects	on condition.

Table 7-758 MappingJoinFieldVO

Parameter	Mandatory	Type	Description
field1_id	Yes	String	Attribute 1 ID, which is a string
field2_id	Yes	String	Attribute 2 ID, which is a string
field1_name	Yes	String	Name of attribute 1.
field2_name	Yes	String	Name of attribute 2.

Table 7-759 MappingSourceFieldVO

Parameter	Mandatory	Type	Description
target_field_id	No	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	Yes	String	Target field code.
field_ids	No	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	No	String	Conversion expression.
field_names	No	Array of strings	List of source field names.
changed	No	Boolean	Indicates whether a field is changed.

Table 7-760 BizDatasourceRelationVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
biz_id	No	String	Business object information, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction

Parameter	Mandatory	Type	Description
dw_type	Yes	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_id	Yes	String	Data connection ID.
db_name	No	String	Indicates the database name.
queue_name	No	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	No	String	Required by the DWS type.

Table 7-761 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Table 7-762 WorkspaceVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name of the workspace.
description	No	String	Description.
is_physical	No	Boolean	Indicates whether a table is a physical table.

Parameter	Mandatory	Type	Description
frequent	No	Boolean	Indicates whether it is commonly used.
top	No	Boolean	Hierarchical governance.
level	No	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	No	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
type	Yes	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	No	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	No	Array of strings	Array of database names.
table_model_prefix	No	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Response Parameters

Status code: 200

Table 7-763 Response body parameters

Parameter	Type	Description
data	data object	Data, which is the unified outermost data structure of the returned result

Table 7-764 data

Parameter	Type	Description
value	DimensionVO object	Value, which is the unified outer data structure of the returned result

Table 7-765 DimensionVO

Parameter	Type	Description
id	String	ID string (It is read-only for creation and mandatory for update.)
name_en	String	Dimension name in English
dimension_type	String	Dimension type (The dimension type can be changed from a common dimension to a hierarchical dimension during an update, and cannot be changed in other scenarios.) Enumerated values: <ul style="list-style-type: none">• COMMON: common dimension• LOOKUP: lookup table dimension• HIERARCHIES: hierarchical dimension
name_ch	String	Dimension name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
code_table	CodeTableVO object	Reference lookup table, which is read-only.

Parameter	Type	Description
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
attributes	Array of DimensionAttributeVO objects	Dimension attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
datasource	BizDataSourceRelationVO object	Data source information, which is mandatory for creation or update
owner	String	Asset owner, which is mandatory for creating or updating an asset
obs_location	String	Foreign Table Path
table_type	String	Table type
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
configs	String	Other Configurations

Parameter	Type	Description
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	String	Model ID
model	WorkspaceVO object	Model information

Table 7-766 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.
create_by	String	Creator.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldV O objects	Code list attribute information.

Table 7-767 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.

Parameter	Type	Description
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-768 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Table 7-769 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.

Parameter	Type	Description
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-770 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-771 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.

Table 7-772 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-773 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-774 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-775 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-776 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.

Parameter	Type	Description
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-777 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.

Parameter	Type	Description
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-778 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none"> • LEFT: left outer join • RIGHT: right outer join • INNER: inner join • FULL: full connection

Parameter	Type	Description
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-779 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-780 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-781 BizDatasourceRelationVO

Parameter	Type	Description
id	String	ID, which is a string
biz_id	String	Business object information, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_id	String	Data connection ID.
dw_name	String	Data connection name, which is read-only.
db_name	String	Indicates the database name.

Parameter	Type	Description
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.

Table 7-782 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-783 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400**Table 7-784** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-785 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-786 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a dimension based on the following parameters.

POST `https://{endpoint}/v2/{project_id}/design/dimensions`

```
{
  "id" : 0,
  "model_id" : "1255482244563357696",
  "name_ch" : "Test dimension",
  "name_en" : "dim_test_dimension",
  "alias" : "",
  "owner" : "test_user",
  "dimension_type" : "COMMON",
  "description" : "None",
  "l3_id" : "1169309252771299328",
  "attributes" : [ {
    "id" : 0,
    "name_ch" : "Test dimension_agent key",
```

```
"name_en" : "dim_key",
"alias" : "",
"description" : "",
"data_type" : "BIGINT",
"data_type_extend" : null,
"is_biz_primary" : false,
"is_primary_key" : true,
"is_partition_key" : false,
"not_null" : false,
"ordinal" : 1,
"dimension_id" : 0,
"create_by" : "string",
"stand_row_id" : null,
"stand_row_name" : null,
"secrecy_levels" : null,
"self_defined_fields" : [ ]
}, {
  "id" : 0,
  "name_ch" : "Test dimension_attribute",
  "name_en" : "test_field",
  "alias" : "",
  "description" : "",
  "data_type" : "BIGINT",
  "data_type_extend" : null,
  "is_biz_primary" : false,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "ordinal" : 2,
  "dimension_id" : 0,
  "create_by" : "string",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "secrecy_levels" : null,
  "self_defined_fields" : [ ]
} ],
"datasource" : {
  "id" : 0,
  "biz_type" : "DIMENSION",
  "dw_type" : "DWS",
  "dw_id" : "8259af52bd294f98920ebce75a426391",
  "db_name" : "bi",
  "schema" : ""
},
"obs_location" : "",
"configs" : "{}",
"table_type" : "MANAGED",
"mappings" : [ ]
}
```

Example Responses

Status code: 200

The operation succeeds. **DimensionVO** is returned.

```
{
  "data" : {
    "value" : {
      "id" : "1300473264673533952",
      "name_en" : "dim_test_dimension",
      "dimension_type" : "COMMON",
      "name_ch" : "Test dimension",
      "description" : "None",
      "create_by" : "test_uesr",
      "update_by" : "test_uesr",
      "code_table_id" : null,
      "code_table" : null,
      "l1_id" : null,

```

```
"l2_id" : null,
"l3_id" : "1169309252771299328",
"hierarchies" : null,
"status" : "DRAFT",
"create_time" : "2024-10-28T14:56:27.923+08:00",
"update_time" : "2024-10-28T14:56:27.923+08:00",
"approval_info" : null,
"new_biz" : null,
"l1" : null,
"l2" : null,
"l3" : null,
"attributes" : [ {
  "id" : "0",
  "dimension_id" : "0",
  "code_table_field_id" : null,
  "name_en" : "dim_key",
  "name_ch" : "Test dimension_agent key",
  "description" : "",
  "create_by" : "string",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : true,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "ordinal" : 1,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "secrecy_levels" : null,
  "status" : null,
  "create_time" : "2024-10-28T14:56:27.923+08:00",
  "update_time" : "2024-10-28T14:56:27.923+08:00",
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : ""
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : ""
  } ],
  "associated_code_table_field" : null
}, {
  "id" : "0",
  "dimension_id" : "0",
  "code_table_field_id" : null,
  "name_en" : "test_field",
  "name_ch" : "Test dimension_attribute",
  "description" : "",
  "create_by" : "string",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "ordinal" : 2,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "secrecy_levels" : null,
  "status" : null,
  "create_time" : "2024-10-28T14:56:27.923+08:00",
```



```
"update_time" : "2024-10-28T14:56:27.923+08:00",
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "aa",
  "fd_name_en" : "aa",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : ""
} ],
"associated_code_table_field" : null
}],
"mappings" : [ ],
"datasource" : {
  "id" : "0",
  "biz_id" : null,
  "biz_type" : "DIMENSION",
  "dw_type" : "DLI",
  "dw_id" : "8259af52bd294f98920ebce75a426391",
  "dw_name" : null,
  "db_name" : "bi",
  "queue_name" : "default",
  "schema" : ""
},
"owner" : "test_user",
"table_type" : "MANAGED",
"distribute" : null,
"distribute_column" : null,
"compression" : null,
"obs_location" : "",
"pre_combine_field" : null,
"alias" : "",
"configs" : "{}",
"self_defined_fields" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : null,
"model_id" : "1255482244563357696",
"model" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a dimension based on the following parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateDesignDimensionSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        CreateDesignDimensionRequest request = new CreateDesignDimensionRequest();
        DimensionVO body = new DimensionVO();
        BizDatasourceRelationVO datasourcebody = new BizDatasourceRelationVO();
        datasourcebody.withId("0")
            .withBizType(BizDatasourceRelationVO.BizTypeEnum.fromValue("DIMENSION"))
            .withDwType("DWS")
            .withDwId("8259af52bd294f98920ebce75a426391")
            .withDbName("bi")
            .withSchema("");
        List<DimensionAttributeVO> listbodyAttributes = new ArrayList<>();
        listbodyAttributes.add(
            new DimensionAttributeVO()
                .withId("0")
                .withDimensionId("0")
                .withNameEn("dim_key")
                .withNameCh("Test dimension_agent key")
                .withDescription("")
                .withCreateBy("string")
                .withDataType("BIGINT")
        );
    }
}
```

```
.withIsPrimaryKey(true)
.withIsBizPrimary(false)
.withIsPartitionKey(false)
.withOrdinal(1)
.withNotNull(false)
.withAlias("")
.withSelfDefinedFields()
);
listbodyAttributes.add(
    new DimensionAttributeVO()
        .withId("0")
        .withDimensionId("0")
        .withNameEn("test_field")
        .withNameCh("Test dimension_attribute")
        .withDescription("")
        .withCreateBy("string")
        .withDataType("BIGINT")
        .withIsPrimaryKey(false)
        .withIsBizPrimary(false)
        .withIsPartitionKey(false)
        .withOrdinal(2)
        .withNotNull(false)
        .withAlias("")
        .withSelfDefinedFields()
);
body.withConfigs("{}");
body.withAlias("");
body.withTableType("MANAGED");
body.withObsLocation("");
body.withOwner("test_user");
body.withDatasource(datasourcebody);
body.withAttributes(listbodyAttributes);
body.withL3Id("1169309252771299328");
body.withDescription("None");
body.withNameCh("Test dimension");
body.withDimensionType(DimensionVO.DimensionTypeEnum.fromValue("COMMON"));
body.withNameEn("dim_test_dimension");
body.withId("0");
request.withBody(body);
try {
    CreateDesignDimensionResponse response = client.createDesignDimension(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Create a dimension based on the following parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *
```

```
if __name__ == "__main__":
```

```
# The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
# In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = CreateDesignDimensionRequest()
    datasourcebody = BizDatasourceRelationVO(
        id="0",
        biz_type="DIMENSION",
        dw_type="DWS",
        dw_id="8259af52bd294f98920ebce75a426391",
        db_name="bi",
        schema=""
    )
    listAttributesbody = [
        DimensionAttributeVO(
            id="0",
            dimension_id="0",
            name_en="dim_key",
            name_ch="Test dimension_agent key",
            description="",
            create_by="string",
            data_type="BIGINT",
            is_primary_key=True,
            is_biz_primary=False,
            is_partition_key=False,
            ordinal=1,
            not_null=False,
            alias="",
        ),
        DimensionAttributeVO(
            id="0",
            dimension_id="0",
            name_en="test_field",
            name_ch="Test dimension_attribute",
            description="",
            create_by="string",
            data_type="BIGINT",
            is_primary_key=False,
            is_biz_primary=False,
            is_partition_key=False,
            ordinal=2,
            not_null=False,
            alias="",
        )
    ]
    request.body = DimensionVO(
        configs="{}",
        alias="",
        table_type="MANAGED",
        obs_location="",
        owner="test_user",
        datasource=datasourcebody,
        attributes=listAttributesbody,
        l3_id="1169309252771299328",
        description="None",
        name_ch="Test dimension",
    )
```

```
        dimension_type="COMMON",
        name_en="dim_test_dimension",
        id="0"
    )
    response = client.create_design_dimension(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Create a dimension based on the following parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateDesignDimensionRequest{}
    idDatasource:= "0"
    bizTypeDatasource:= model.GetBizDatasourceRelationVoBizTypeEnum().DIMENSION
    dbNameDatasource:= "bi"
    schemaDatasource:= ""
    datasourcebody := &model.BizDatasourceRelationVo{
        Id: &idDatasource,
        BizType: &bizTypeDatasource,
        DwType: "DWS",
        DwId: "8259af52bd294f98920ebce75a426391",
        DbName: &dbNameDatasource,
        Schema: &schemaDatasource,
    }
    idAttributes:= "0"
    dimensionIdAttributes:= "0"
    descriptionAttributes:= ""
    createByAttributes:= "string"
    isBizPrimaryAttributes:= false
    isPartitionKeyAttributes:= false
    notNullAttributes:= false
    aliasAttributes:= ""
```

```
idAttributes1:= "0"
dimensionIdAttributes1:= "0"
descriptionAttributes1:= ""
createByAttributes1:= "string"
isBizPrimaryAttributes1:= false
isPartitionKeyAttributes1:= false
notNullAttributes1:= false
aliasAttributes1:= ""
var listAttributesbody = []model.DimensionAttributeVo{
    {
        Id: &idAttributes,
        DimensionId: &dimensionIdAttributes,
        NameEn: "dim_key",
        NameCh: "Test dimension_agent key",
        Description: &descriptionAttributes,
        CreateBy: &createByAttributes,
        DataType: "BIGINT",
        IsPrimaryKey: true,
        IsBizPrimary: &isBizPrimaryAttributes,
        IsPartitionKey: &isPartitionKeyAttributes,
        Ordinal: int32(1),
        NotNull: &notNullAttributes,
        Alias: &aliasAttributes,
    },
    {
        Id: &idAttributes1,
        DimensionId: &dimensionIdAttributes1,
        NameEn: "test_field",
        NameCh: "Test dimension_attribute",
        Description: &descriptionAttributes1,
        CreateBy: &createByAttributes1,
        DataType: "BIGINT",
        IsPrimaryKey: false,
        IsBizPrimary: &isBizPrimaryAttributes1,
        IsPartitionKey: &isPartitionKeyAttributes1,
        Ordinal: int32(2),
        NotNull: &notNullAttributes1,
        Alias: &aliasAttributes1,
    },
}
configsDimensionVo:= "{}"
aliasDimensionVo:= ""
tableTypeDimensionVo:= "MANAGED"
obsLocationDimensionVo:= ""
ownerDimensionVo:= "test_user"
descriptionDimensionVo:= "None"
idDimensionVo:= "0"
request.Body = &model.DimensionVo{
    Configs: &configsDimensionVo,
    Alias: &aliasDimensionVo,
    TableType: &tableTypeDimensionVo,
    ObsLocation: &obsLocationDimensionVo,
    Owner: &ownerDimensionVo,
    Datasource: datasourcebody,
    Attributes: listAttributesbody,
    L3Id: "1169309252771299328",
    Description: &descriptionDimensionVo,
    NameCh: "Test dimension",
    DimensionType: model.GetDimensionVoDimensionTypeEnum().COMMON,
    NameEn: "dim_test_dimension",
    Id: &idDimensionVo,
}
response, err := client.CreateDesignDimension(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds. DimensionVO is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.14.3 Updating a Dimension

Function

This API is used to update a dimension.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/dimensions

Table 7-787 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-788 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID string (It is read-only for creation and mandatory for update.)
name_en	Yes	String	Dimension name in English
dimension_type	Yes	String	Dimension type (The dimension type can be changed from a common dimension to a hierarchical dimension during an update, and cannot be changed in other scenarios.) Enumerated values: <ul style="list-style-type: none">● COMMON: common dimension● LOOKUP: lookup table dimension● HIERARCHIES: hierarchical dimension
name_ch	Yes	String	Dimension name
description	Yes	String	Description.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
code_table_id	No	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	Business object ID, which is a string
hierarchies	No	Array of DimensionHierarchiesVO objects	Level attribute.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
attributes	Yes	Array of DimensionAttributeVO objects	Dimension attribute information.
mappings	No	Array of TableMappingVO objects	Table mapping information.

Parameter	Mandatory	Type	Description
datasource	Yes	BizDataSourceRelationVO object	Data source information, which is mandatory for creation or update
owner	Yes	String	Asset owner, which is mandatory for creating or updating an asset
obs_location	No	String	Foreign Table Path
table_type	No	String	Table type
distribute	No	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none"> HASH: Hashes specified columns and distributes data to specified DNs through mapping. REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	No	String	DISTRIBUTE BY HASH column.
alias	No	String	Alias
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.
configs	No	String	Other Configurations
model_id	No	String	Model ID
model	No	WorkspaceVO object	Model information

Table 7-789 DimensionHierarchiesVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	No	String	Level name.
attrs	No	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.

Parameter	Mandatory	Type	Description
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-790 HierarchiesAttrVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
hierarchies_id	No	String	Level ID, which is a string
attr_id	No	String	Attribute ID, which is a string
level	No	Integer	Indicates the layer.
attr_name_en	No	String	Referenced attribute code.
detail_attr_ids	No	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	No	Array of strings	Details attribute in English.

Table 7-791 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-792 DimensionAttributeVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
code_table_field_id	No	String	Lookup table attribute ID, which is a string
name_en	Yes	String	Field name.
name_ch	Yes	String	Service attribute.
description	No	String	Description.
create_by	No	String	Creator.
data_type	Yes	String	Field type
data_type_extend	No	String	Extended field of the data type.
is_primary_key	Yes	Boolean	Indicates whether a key is a primary key.
is_biz_primary	No	Boolean	Indicates whether it is a service primary key.
is_partition_key	No	Boolean	Indicates whether to partition.
ordinal	Yes	Integer	Sequence number.
not_null	No	Boolean	Indicates whether the value is empty.
stand_row_id	No	String	ID of the associated data standard, which is a string

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
alias	No	String	Alias
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.

Table 7-793 TableMappingVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name.
description	No	String	Description.
target_table_id	No	String	Destination table ID, which is a string
src_model_id	No	String	ID of the relational model for the source table. The value is a string.
src_model_name	No	String	Source model name.
view_text	No	String	Source of the collected view. The dws view is used reversely.
target_table_name	No	String	Name of the destination table.
details	No	Array of TableMappingDetailVO objects	Details.

Parameter	Mandatory	Type	Description
source_tables	No	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	No	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	No	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	No	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-794 TableMappingDetailVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
mapping_id	No	String	Name.
target_attr_id	No	String	ID of the destination attribute, which is a string
target_attr_name	Yes	String	Sort by destination field.
src_table_ids	No	String	Source table ID.
src_attr_ids	No	String	ID of a field in the source table.
remark	No	String	Description.

Parameter	Mandatory	Type	Description
create_time	No	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	No	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
target_attr	No	Object	Target attribute.

Table 7-795 MappingSourceTableVO

Parameter	Mandatory	Type	Description
table1_id	Yes	String	Table 1 ID, which is a string
table2_id	No	String	Table 2 ID, which is a string
table1_name	Yes	String	Name of table 1.
table2_name	No	String	Name of table 2.
join_type	Yes	String	Association type. Options: <ul style="list-style-type: none"> • LEFT: left outer join • RIGHT: right outer join • INNER: inner join • FULL: full connection
join_fields	Yes	Array of MappingJoinFieldVO objects	on condition.

Table 7-796 MappingJoinFieldVO

Parameter	Mandatory	Type	Description
field1_id	Yes	String	Attribute 1 ID, which is a string
field2_id	Yes	String	Attribute 2 ID, which is a string
field1_name	Yes	String	Name of attribute 1.
field2_name	Yes	String	Name of attribute 2.

Table 7-797 MappingSourceFieldVO

Parameter	Mandatory	Type	Description
target_field_id	No	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	Yes	String	Target field code.
field_ids	No	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	No	String	Conversion expression.
field_names	No	Array of strings	List of source field names.
changed	No	Boolean	Indicates whether a field is changed.

Table 7-798 BizDatasourceRelationVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
biz_id	No	String	Business object information, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction

Parameter	Mandatory	Type	Description
dw_type	Yes	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_id	Yes	String	Data connection ID.
db_name	No	String	Indicates the database name.
queue_name	No	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	No	String	Required by the DWS type.

Table 7-799 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Table 7-800 WorkspaceVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name of the workspace.
description	No	String	Description.
is_physical	No	Boolean	Indicates whether a table is a physical table.

Parameter	Mandatory	Type	Description
frequent	No	Boolean	Indicates whether it is commonly used.
top	No	Boolean	Hierarchical governance.
level	No	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	No	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
type	Yes	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	No	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	No	Array of strings	Array of database names.
table_model_prefix	No	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Response Parameters

Status code: 200

Table 7-801 Response body parameters

Parameter	Type	Description
data	data object	Data, which is the unified outermost data structure of the returned result

Table 7-802 data

Parameter	Type	Description
value	DimensionVO object	Value, which is the unified outer data structure of the returned result

Table 7-803 DimensionVO

Parameter	Type	Description
id	String	ID string (It is read-only for creation and mandatory for update.)
name_en	String	Dimension name in English
dimension_type	String	Dimension type (The dimension type can be changed from a common dimension to a hierarchical dimension during an update, and cannot be changed in other scenarios.) Enumerated values: <ul style="list-style-type: none">• COMMON: common dimension• LOOKUP: lookup table dimension• HIERARCHIES: hierarchical dimension
name_ch	String	Dimension name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
code_table	CodeTableVO object	Reference lookup table, which is read-only.

Parameter	Type	Description
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
attributes	Array of DimensionAttributeVO objects	Dimension attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
datasource	BizDataSourceRelationVO object	Data source information, which is mandatory for creation or update
owner	String	Asset owner, which is mandatory for creating or updating an asset
obs_location	String	Foreign Table Path
table_type	String	Table type
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
configs	String	Other Configurations

Parameter	Type	Description
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	String	Model ID
model	WorkspaceVO object	Model information

Table 7-804 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.
create_by	String	Creator.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldVO objects	Code list attribute information.

Table 7-805 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.

Parameter	Type	Description
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> NUMBER: number STRING: character type DATETIME: date type BLOB: large object (BLOB) OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-806 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Table 7-807 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.

Parameter	Type	Description
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-808 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-809 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.

Table 7-810 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-811 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-812 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-813 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-814 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.

Parameter	Type	Description
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-815 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.

Parameter	Type	Description
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-816 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection

Parameter	Type	Description
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-817 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-818 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-819 BizDatasourceRelationVO

Parameter	Type	Description
id	String	ID, which is a string
biz_id	String	Business object information, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_id	String	Data connection ID.
dw_name	String	Data connection name, which is read-only.
db_name	String	Indicates the database name.

Parameter	Type	Description
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.

Table 7-820 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-821 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400**Table 7-822** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-823** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-824** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Update a dimension based on the following parameters.

```
PUT https://{endpoint}/v2/{project_id}/design/dimensions
```

```
{
  "id": "1300473264673533952",
  "model_id": "1255482244563357696",
  "name_ch": "Test dimension",
  "name_en": "dim_test_dimension",
  "alias": "",
  "owner": "test_user",
  "dimension_type": "COMMON",
  "description": "None",
  "l3_id": "1169309252771299328",
  "attributes": [ {
    "id": "1300473264694505472",
    "name_ch": "Test dimension_agent key",
```

```
"name_en" : "dim_key",
"alias" : "",
"description" : "",
"data_type" : "BIGINT",
"data_type_extend" : null,
"is_biz_primary" : false,
"is_primary_key" : true,
"is_partition_key" : false,
"not_null" : false,
"ordinal" : 1,
"dimension_id" : "1300473264673533952",
"create_by" : "string",
"stand_row_id" : null,
"stand_row_name" : null,
"secrecy_levels" : null,
"self_defined_fields" : [ ]
}, {
  "id" : "1300473264694505473",
  "name_ch" : "Test dimension_attribute",
  "name_en" : "test_field",
  "alias" : "",
  "description" : "",
  "data_type" : "BIGINT",
  "data_type_extend" : null,
  "is_biz_primary" : false,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "ordinal" : 2,
  "dimension_id" : "1300473264673533952",
  "create_by" : "string",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "secrecy_levels" : null,
  "self_defined_fields" : [ ]
} ],
"datasource" : {
  "id" : 0,
  "biz_type" : "DIMENSION",
  "dw_type" : "DWS",
  "dw_id" : "8259af52bd294f98920ebce75a426391",
  "db_name" : "bi",
  "schema" : ""
},
"obs_location" : "",
"self_defined_fields" : null,
"configs" : "{}",
"table_type" : "MANAGED",
"mappings" : [ ]
}
```

Example Responses

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
}
```

```
"error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update a dimension based on the following parameters.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class UpdateDesignDimensionSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        UpdateDesignDimensionRequest request = new UpdateDesignDimensionRequest();  
        DimensionVO body = new DimensionVO();  
        BizDatasourceRelationVO datasourcebody = new BizDatasourceRelationVO();  
        datasourcebody.withId("0")  
            .withBizType(BizDatasourceRelationVO.BizTypeEnum.fromValue("DIMENSION"))  
            .withDwType("DWS")  
            .withDwid("8259af52bd294f98920ebce75a426391")  
            .withDbName("bi")  
            .withSchema("");  
        List<DimensionAttributeVO> listbodyAttributes = new ArrayList<>();  
        listbodyAttributes.add(  
            new DimensionAttributeVO()
```

```
.withId("1300473264694505472")
.withDimensionId("1300473264673533952")
.withNameEn("dim_key")
.withNameCh("Test dimension_agent key")
.withDescription("")
.withCreateBy("string")
.withDataType("BIGINT")
.withIsPrimaryKey(true)
.withIsBizPrimary(false)
.withIsPartitionKey(false)
.withOrdinal(1)
.withNotNull(false)
.withAlias("")
.withSelfDefinedFields()
);
listbodyAttributes.add(
    new DimensionAttributeVO()
        .withId("1300473264694505473")
        .withDimensionId("1300473264673533952")
        .withNameEn("test_field")
        .withNameCh("Test dimension_attribute")
        .withDescription("")
        .withCreateBy("string")
        .withDataType("BIGINT")
        .withIsPrimaryKey(false)
        .withIsBizPrimary(false)
        .withIsPartitionKey(false)
        .withOrdinal(2)
        .withNotNull(false)
        .withAlias("")
        .withSelfDefinedFields()
);
body.withConfigs("{}");
body.withAlias("");
body.withTableType("MANAGED");
body.withObsLocation("");
body.withOwner("test_user");
body.withDatasource(datasourcebody);
body.withAttributes(listbodyAttributes);
body.withL3Id("1169309252771299328");
body.withDescription("None");
body.withNameCh("Test dimension");
body.withDimensionType(DimensionVO.DimensionTypeEnum.fromValue("COMMON"));
body.withNameEn("dim_test_dimension");
body.withId("1300473264673533952");
request.withBody(body);
try {
    UpdateDesignDimensionResponse response = client.updateDesignDimension(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Update a dimension based on the following parameters.

```
# coding: utf-8
```

```
import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateDesignDimensionRequest()
        datasourcebody = BizDatasourceRelationVO(
            id="0",
            biz_type="DIMENSION",
            dw_type="DWS",
            dw_id="8259af52bd294f98920ebce75a426391",
            db_name="bi",
            schema=""
        )
        listAttributesbody = [
            DimensionAttributeVO(
                id="1300473264694505472",
                dimension_id="1300473264673533952",
                name_en="dim_key",
                name_ch="Test dimension_agent key",
                description="",
                create_by="string",
                data_type="BIGINT",
                is_primary_key=True,
                is_biz_primary=False,
                is_partition_key=False,
                ordinal=1,
                not_null=False,
                alias="",
            ),
            DimensionAttributeVO(
                id="1300473264694505473",
                dimension_id="1300473264673533952",
                name_en="test_field",
                name_ch="Test dimension_attribute",
                description="",
                create_by="string",
                data_type="BIGINT",
                is_primary_key=False,
                is_biz_primary=False,
                is_partition_key=False,
                ordinal=2,
                not_null=False,
                alias="",
            )
        ]
        request.body = DimensionVO(
            configs={},
            alias="",
            table_type="MANAGED",
```

```
        obs_location="",
        owner="test_user",
        datasource=datasourcebody,
        attributes=listAttributesbody,
        l3_id="1169309252771299328",
        description="None",
        name_ch="Test dimension",
        dimension_type="COMMON",
        name_en="dim_test_dimension",
        id="1300473264673533952"
    )
    response = client.update_design_dimension(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Update a dimension based on the following parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateDesignDimensionRequest{
        idDatasource:= "0"
        bizTypeDatasource:= model.GetBizDatasourceRelationVoBizTypeEnum().DIMENSION
        dbNameDatasource:= "bi"
        schemaDatasource:= ""
        datasourcebody := &model.BizDatasourceRelationVo{
            Id: &idDatasource,
            BizType: &bizTypeDatasource,
            DwType: "DWS",
            DwId: "8259af52bd294f98920ebce75a426391",
            DbName: &dbNameDatasource,
            Schema: &schemaDatasource,
        }
    }
    idAttributes:= "1300473264694505472"
```



```
dimensionIdAttributes:= "1300473264673533952"
descriptionAttributes:= ""
createByAttributes:= "string"
isBizPrimaryAttributes:= false
isPartitionKeyAttributes:= false
notNullAttributes:= false
aliasAttributes:= ""
idAttributes1:= "1300473264694505473"
dimensionIdAttributes1:= "1300473264673533952"
descriptionAttributes1:= ""
createByAttributes1:= "string"
isBizPrimaryAttributes1:= false
isPartitionKeyAttributes1:= false
notNullAttributes1:= false
aliasAttributes1:= ""
var listAttributesbody = []model.DimensionAttributeVo{
    {
        Id: &idAttributes,
        DimensionId: &dimensionIdAttributes,
        NameEn: "dim_key",
        NameCh: "Test dimension_agent key",
        Description: &descriptionAttributes,
        CreateBy: &createByAttributes,
        DataType: "BIGINT",
        IsPrimaryKey: true,
        IsBizPrimary: &isBizPrimaryAttributes,
        IsPartitionKey: &isPartitionKeyAttributes,
        Ordinal: int32(1),
        NotNull: &notNullAttributes,
        Alias: &aliasAttributes,
    },
    {
        Id: &idAttributes1,
        DimensionId: &dimensionIdAttributes1,
        NameEn: "test_field",
        NameCh: "Test dimension_attribute",
        Description: &descriptionAttributes1,
        CreateBy: &createByAttributes1,
        DataType: "BIGINT",
        IsPrimaryKey: false,
        IsBizPrimary: &isBizPrimaryAttributes1,
        IsPartitionKey: &isPartitionKeyAttributes1,
        Ordinal: int32(2),
        NotNull: &notNullAttributes1,
        Alias: &aliasAttributes1,
    },
}
configsDimensionVo:= "{}"
aliasDimensionVo:= ""
tableTypeDimensionVo:= "MANAGED"
obsLocationDimensionVo:= ""
ownerDimensionVo:= "test_user"
descriptionDimensionVo:= "None"
idDimensionVo:= "1300473264673533952"
request.Body = &model.DimensionVo{
    Configs: &configsDimensionVo,
    Alias: &aliasDimensionVo,
    TableType: &tableTypeDimensionVo,
    ObsLocation: &obsLocationDimensionVo,
    Owner: &ownerDimensionVo,
    Datasource: datasourcebody,
    Attributes: listAttributesbody,
    L3Id: "1169309252771299328",
    Description: &descriptionDimensionVo,
    NameCh: "Test dimension",
    DimensionType: model.GetDimensionVoDimensionTypeEnum().COMMON,
    NameEn: "dim_test_dimension",
    Id: &idDimensionVo,
}
```

```
response, err := client.UpdateDesignDimension(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds. DimensionVO is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.14.4 Deleting Dimensions

Function

This API is used to delete dimensions with specified IDs.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/dimensions

Table 7-825 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-826 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> • PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-827 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-828 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-829 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-830 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-831 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Delete dimensions based on the input parameters. Only dimensions in the draft, offline, or rejected state can be deleted.

```
DELETE https://{endpoint}/v2/{project_id}/design/dimensions
{
  "ids" : [ "1227990857618227200" ]
}
```

Example Responses

Status code: 200

The operation succeeds, and the number of deleted dimensions is returned.

```
{  
  "value" : 1  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Delete dimensions based on the input parameters. Only dimensions in the draft, offline, or rejected state can be deleted.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class DeleteDesignDimensionSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()
```

```
.withProjectId(projectId)
.withAk(ak)
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
DeleteDesignDimensionRequest request = new DeleteDesignDimensionRequest();
IdsParam body = new IdsParam();
List<String> listbodyIds = new ArrayList<>();
listbodyIds.add("1227990857618227200");
body.withIds(listbodyIds);
request.withBody(body);
try {
    DeleteDesignDimensionResponse response = client.deleteDesignDimension(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Delete dimensions based on the input parameters. Only dimensions in the draft, offline, or rejected state can be deleted.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteDesignDimensionRequest()
        listbody = [
            "1227990857618227200"
        ]
        request.body = IdsParam(
            ids=listbody
        )
```

```
response = client.delete_design_dimension(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Delete dimensions based on the input parameters. Only dimensions in the draft, offline, or rejected state can be deleted.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteDesignDimensionRequest{}
    var listIdsbody = []string{
        "1227990857618227200",
    }
    request.Body = &model.IdsParam{
        Ids: listIdsbody,
    }
    response, err := client.DeleteDesignDimension(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds, and the number of deleted dimensions is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.14.5 Viewing Dimension Details

Function

This API is used to view dimension details by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/dimensions/{id}

Table 7-832 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-833 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-834 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-835** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-836 data

Parameter	Type	Description
value	DimensionVO object	value: unified outer data structure of the returned result.

Table 7-837 DimensionVO

Parameter	Type	Description
id	String	ID string (It is read-only for creation and mandatory for update.)
name_en	String	Dimension name in English
dimension_type	String	Dimension type (The dimension type can be changed from a common dimension to a hierarchical dimension during an update, and cannot be changed in other scenarios.) Enumerated values: <ul style="list-style-type: none"> • COMMON: common dimension • LOOKUP: lookup table dimension • HIERARCHIES: hierarchical dimension
name_ch	String	Dimension name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
code_table	CodeTableVO object	Reference lookup table, which is read-only.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string

Parameter	Type	Description
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
attributes	Array of DimensionAttributeVO objects	Dimension attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
datasource	BizDatasourceRelationVO object	Data source information, which is mandatory for creation or update
owner	String	Asset owner, which is mandatory for creating or updating an asset
obs_location	String	Foreign Table Path
table_type	String	Table type
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
configs	String	Other Configurations
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">INVALID_TYPE: invalid environmentDEV_TYPE: development environmentPROD_TYPE: production environmentDEV_PROD_TYPE: development and production environment
model_id	String	Model ID
model	WorkspaceVO object	Model information

Table 7-838 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.
create_by	String	Creator.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldV O objects	Code list attribute information.

Table 7-839 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.

Parameter	Type	Description
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-840 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Table 7-841 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.

Parameter	Type	Description
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-842 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-843 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.

Table 7-844 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-845 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-846 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-847 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-848 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.

Parameter	Type	Description
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-849 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.

Parameter	Type	Description
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-850 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none"> • LEFT: left outer join • RIGHT: right outer join • INNER: inner join • FULL: full connection

Parameter	Type	Description
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-851 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-852 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-853 BizDatasourceRelationVO

Parameter	Type	Description
id	String	ID, which is a string
biz_id	String	Business object information, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_id	String	Data connection ID.
dw_name	String	Data connection name, which is read-only.
db_name	String	Indicates the database name.

Parameter	Type	Description
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.

Table 7-854 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-855 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400**Table 7-856** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-857** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-858** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API queries dimension information based on the dimension ID.

```
GET https://{endpoint}/v2/{project_id}/design/dimensions/1222930977286987776
```

Example Responses

Status code: 200

This operation is successful, and the returned data is DimensionVO details.

```
{
  "data": {
    "value": {
      "id": "1222930977286987776",
      "name_en": "dim_test_czh_0328",
      "dimension_type": "COMMON",

```

```
"name_ch": "test_czh_0328",
"description": "N/A",
"create_by": "test_uesr",
"update_by": null,
"code_table_id": null,
"code_table": null,
"l1_id": "1194966710038474752",
"l2_id": null,
"l3_id": null,
"hierarchies": [ ],
"status": "PUBLISHED",
"create_time": "2024-03-28T15:31:06+08:00",
"update_time": "2024-03-28T15:31:06+08:00",
"approval_info": {
  "id": "1222930978226511872",
  "tenant_id": null,
  "name_ch": null,
  "name_en": null,
  "biz_id": "1222930977286987776",
  "biz_type": null,
  "biz_info": null,
  "biz_info_obj": null,
  "biz_version": 0,
  "biz_status": "PUBLISHED",
  "approval_status": "APPROVED",
  "approval_type": null,
  "submit_time": "2024-03-28T15:31:06+08:00",
  "create_by": null,
  "l1": null,
  "l2": null,
  "l3": null,
  "approval_time": "2024-03-28T15:31:06+08:00",
  "approver": "test_uesr",
  "email": null,
  "msg": "Fast Approval OK.",
  "directory_path": null
},
"new_biz": null,
"l1": "test_czh_catalog",
"l2": null,
"l3": null,
"attributes": [ {
  "id": "1222930977370873856",
  "dimension_id": "1222930977286987776",
  "code_table_field_id": null,
  "name_en": "dim_test_czh_0328_key",
  "name_ch": "test_czh_0328",
  "description": "",
  "create_by": "test_uesr",
  "data_type": "BIGINT",
  "domain_type": "NUMBER",
  "data_type_extend": null,
  "is_primary_key": true,
  "is_biz_primary": false,
  "is_partition_key": false,
  "ordinal": 1,
  "not_null": false,
  "stand_row_id": null,
  "stand_row_name": null,
  "quality_infos": null,
  "secrecy_levels": [ ],
  "status": null,
  "create_time": "2024-03-28T15:31:06+08:00",
  "update_time": "2024-03-28T15:31:06+08:00",
  "alias": "",
  "self_defined_fields": [ {
    "fd_name_ch": "aa",
    "fd_name_en": "aa",
    "not_null": false,
```

```
    "fd_value" : ""
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : ""
  }
]
}, {
  "id" : "1222930977370873857",
  "dimension_id" : "1222930977286987776",
  "code_table_field_id" : null,
  "name_en" : "aaa",
  "name_ch" : "aaa",
  "description" : "",
  "create_by" : "test_uesr",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "ordinal" : 2,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "secrecy_levels" : [ ],
  "status" : null,
  "create_time" : "2024-03-28T15:31:06+08:00",
  "update_time" : "2024-03-28T15:31:06+08:00",
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : ""
  }
], {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : ""
}
]
}, {
  "id" : "1222930977370873858",
  "dimension_id" : "1222930977286987776",
  "code_table_field_id" : null,
  "name_en" : "bbb",
  "name_ch" : "bbb",
  "description" : "",
  "create_by" : "test_uesr",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "ordinal" : 3,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "secrecy_levels" : [ ],
  "status" : null,
  "create_time" : "2024-03-28T15:31:06+08:00",
  "update_time" : "2024-03-28T15:31:06+08:00",
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
```

```
    "not_null" : false,
    "fd_value" : ""
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : ""
  }
}],
"mappings" : [ ],
"datasource" : {
  "id" : "1222930977387651072",
  "biz_id" : "1222930977286987776",
  "biz_type" : "DIMENSION",
  "dw_type" : "DWS",
  "dw_id" : "8259af52bd294f98920ebce75a426391",
  "dw_name" : "dws",
  "db_name" : "bi",
  "queue_name" : "default",
  "schema" : ""
},
"owner" : "afcaca",
"table_type" : "MANAGED",
"distribute" : null,
"distribute_column" : null,
"obs_location" : "",
"alias" : "",
"configs" : "{}",
"self_defined_fields" : [ {
  "fd_name_ch" : "User-defined item 1",
  "fd_name_en" : "selfDefine1",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "User-defined item 2",
  "fd_name_en" : "selfDefine2",
  "not_null" : true,
  "fd_value" : "adada"
} ],
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden


```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowDimensionByIdSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowDimensionByIdRequest request = new ShowDimensionByIdRequest();
        request.withId("{id}");
        try {
            ShowDimensionByIdResponse response = client.showDimensionById(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8
```

```
import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowDimensionByIdRequest()
        request.id = "{id}"
        response = client.show_dimension_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowDimensionByIdRequest{}
```

```
request.Id = "{id}"
response, err := client.ShowDimensionById(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is DimensionVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.14.6 View Dimension Granularity

Function

This API is used to query the dimension granularity. All dimensions are queried based on tableId. If tableId is not transferred, the granularity of all dimension groups is queried.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/dimension/groups

Table 7-859 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-860 Query Parameters

Parameter	Mandatory	Type	Description
table_id	No	String	ID of the associated table, which is a string
biz_type	No	String	Query by service type. The options are ATOMIC_INDEX (atomic indicator), DERIVATIVE_INDEX (derivative indicator), DIMENSION (dimension), and TIME_CONDITION (time filter). DIMENSION_LOGIC_TABLE (dimension table), FACT_LOGIC_TABLE (fact table), AGGREGATION_LOGIC_TABLE (summary table), TABLE_MODEL (relational modeling table), CODE_TABLE (code table), STANDARD_ELEMENT (data standard), BIZ_METRIC (business metric), COMPOUND_METRIC (compound metric), SUBJECT (subject), ATOMIC_METRIC (atomic metric (new)), DERIVED_METRIC (Derivative (new)), COMPOSITE_METRIC (Compound (new))).
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-861 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-862** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-863 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-864 value

Parameter	Type	Description
main_table	FactLogicTableVO object	Fact table.
dimension_tables	Array of DimensionLogicTableVO objects	Dimension.

Table 7-865 FactLogicTableVO

Parameter	Type	Description
id	String	Fact table ID, which is a string
tb_name	String	Specifies the name of the table.
tb_logic_name	String	Name of a logical entity.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
description	String	Description.
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
owner	String	Asset owner.
create_by	String	Creator.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.

Parameter	Type	Description
dw_id	String	Data connection ID.
db_name	String	Database name.
tb_id	String	Data table ID. This parameter is read-only.
dim_table_ids	Array of strings	ID of the associated dimension table.
reversed	Boolean	Indicates whether it is reverse.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
schema	String	Required by the DWS type.
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
table_type	String	Table type
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected

Parameter	Type	Description
tb_guid	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.

Parameter	Type	Description
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
dimensions	Array of FactTableAttributeVO objects	Fact table dimension information, which is read-only.
attributes	Array of FactTableAttributeVO objects	Fact attribute information of the fact table, which is read-only.
mappings	Array of TableMappingVO objects	Table mapping information.
measures	Array of FactTableAttributeVO objects	Fact table measurement information, which is read-only.
table_attributes	Array of FactTableAttributeVO objects	Indicates all attributes of a fact table.
configs	String	Other Configurations
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
meta_data_link	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
quality_id	String	Quality ID, which is a string
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
obs_location	String	Foreign Table Path
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string

Parameter	Type	Description
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
model_id	Long	Model ID
model	WorkspaceVO object	Model information

Table 7-866 FactTableAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
fact_logic_table_id	String	Fact table ID, which is a read-only string
ordinal	Integer	Sequence number.
dimension_id	String	Dimension ID, which is a string
dimension_attr_id	String	Dimension attribute ID, which is a string
role	String	Dimension role.
dimension	DimensionVO object	Indicates the dimension information corresponding to dimension_id. This parameter is read-only.
is_primary_key	Boolean	Indicates whether a key is a primary key.

Parameter	Type	Description
is_partition_key	Boolean	Indicates whether the key is a partition key.
is_foreign_key	Boolean	Indicates whether the key is a foreign key. This parameter is read-only.
secrecy_levels	Array of SecrecyLevelRecordVO objects	Confidentiality
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
name_en	String	English name of the user.
name_ch	String	Chinese name.
not_null	Boolean	Indicates whether the value is empty.

Parameter	Type	Description
attribute_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.

Table 7-867 DimensionVO

Parameter	Type	Description
id	String	ID string (It is read-only for creation and mandatory for update.)
name_en	String	Dimension name in English
dimension_type	String	Dimension type (The dimension type can be changed from a common dimension to a hierarchical dimension during an update, and cannot be changed in other scenarios.) Enumerated values: <ul style="list-style-type: none">• COMMON: common dimension• LOOKUP: lookup table dimension• HIERARCHIES: hierarchical dimension
name_ch	String	Dimension name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
code_table	CodeTableVO object	Reference lookup table, which is read-only.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
attributes	Array of DimensionAttributeVO objects	Dimension attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
datasource	BizDatasourceRelationVO object	Data source information, which is mandatory for creation or update
owner	String	Asset owner, which is mandatory for creating or updating an asset
obs_location	String	Foreign Table Path
table_type	String	Table type
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
configs	String	Other Configurations
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment
model_id	String	Model ID
model	WorkspaceVO object	Model information

Table 7-868 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-869 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-870 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type

Parameter	Type	Description
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.

Table 7-871 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.

Parameter	Type	Description
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-872 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-873 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-874 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string

Parameter	Type	Description
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-875 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-876 BizDatasourceRelationVO

Parameter	Type	Description
id	String	ID, which is a string
biz_id	String	Business object information, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
dw_id	String	Data connection ID.
dw_name	String	Data connection name, which is read-only.
db_name	String	Indicates the database name.

Parameter	Type	Description
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.

Table 7-877 SecrecyLevelRecordVO

Parameter	Type	Description
id	String	ID of the security level associated with the attribute. The ID is a string.
secrecyLevel_id	String	Security level ID, which is a string
secrecyLevel_name	String	Security level name.
uuid	String	Data security primary key.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
biz_id	String	Business object ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_by	String	Creator.
update_by	String	Updater.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-878 DimensionLogicTableVO

Parameter	Type	Description
id	String	Table ID
tb_name	String	Table name
tb_logic_name	String	Name of a logical entity.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
create_by	String	Creator.
description	String	Description.
dimension_id	String	Dimension ID, which is a string
owner	String	Asset owner.
dimension_type	String	Dimension type. Options: <ul style="list-style-type: none">• COMMON: common dimension• LOOKUP: code table dimension• HIERARCHIES: hierarchy dimension
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
code_table	CodeTableVO object	Reference lookup table, which is read-only.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
dw_id	String	Data connection ID.
reversed	Boolean	Indicates whether it is reverse.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.

Parameter	Type	Description
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
db_name	String	Database name.
tb_id	String	Data table ID. This parameter is read-only.
schema	String	Required by the DWS type.
table_type	String	Table type
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
tb_guid	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dimension_name	String	Associated dimension name, which is read-only.
attributes	Array of DimensionLogicTableAttributeVO objects	Field attribute.

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
technical_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
materialization	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
distribute	String	DISTRIBUTE BY [HASH(column)] REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
quality_id	String	Quality ID, which is a string
alias	String	Alias

Parameter	Type	Description
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
obs_location	String	Foreign Table Path
configs	String	Other Configurations
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	Long	Model ID
model	WorkspaceVO object	Model information

Table 7-879 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.

Parameter	Type	Description
description	String	Description.
create_by	String	Creator.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldVO objects	Code list attribute information.

Table 7-880 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string

Parameter	Type	Description
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-881 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Table 7-882 DimensionLogicTableAttributeVO

Parameter	Type	Description
id	String	Dimension table ID, which is a string
dimension_logic_table_id	String	ID of the dimension table.
ordinal	Integer	No.
dimension_attribute_id	String	Dimension attribute ID, which is a string
name_en	String	Field name, which is read-only.
name_ch	String	Service attribute. This parameter is read-only.
description	String	Description, which is read-only.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key. This parameter is read-only.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether the partition is a primary key partition. This parameter is read-only.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias

Parameter	Type	Description
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality

Table 7-883 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-884 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-885 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-886 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-887 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-888 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.

Parameter	Type	Description
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.

Parameter	Type	Description
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-889 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-890 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-891 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Query the granularity of the dimension whose table ID is 1169329693619625984 and service type is FACT_LOGIC_TABLE.

```
GET https://{endpoint}/v2/{project_id}/design/dimension/groups?  
biz_type=FACT_LOGIC_TABLE&table_id=1169329693619625984
```

Example Responses

Status code: 200

This operation is successful, and the returned data is DerivativeIndexDimensionVO details.

```
{  
  "data" : {  
    "value" : {  
      "main_table" : {  
        "id" : "1169329693619625984",  
        "tb_name" : "fact_stroke_order",  
        "tb_logic_name" : "Itinerary order",  
        "l1_id" : null,  
        "l2_id" : null,  
        "l3_id" : "1179816339158790144",  
        "description" : "None",  
        "dw_name" : null,  
        "owner" : "test_uesr",  
        "create_by" : "test_uesr",  
        "queue_name" : "",  
        "dw_id" : "d800f74aedca4e68a95ecbd0569cabfa",  
        "db_name" : "default",  
        "tb_id" : "NativeTable-d800f74aedca4e68a95ecbd0569cabfa-default-fact_stroke_order",  
        "dim_table_ids" : null,  
        "reversed" : null,  
        "partition_conf" : null,  
        "dirty_out_switch" : false,  
        "dirty_out_database" : "",  
        "dirty_out_prefix" : "",  
        "dirty_out_suffix" : "",  
        "schema" : "",  
        "distribute" : null,  
        "distribute_column" : null,  
        "obs_location" : null,  
        "table_type" : "HIVE_TABLE",  
        "status" : "PUBLISHED",  
        "tb_guid" : "fe241223-c87c-4011-90a3-ced201bd4fd0",  
        "tb_logic_guid" : "5231b940-c716-4d7d-bbce-d0b46f5dec5c",  
        "dw_type" : "MRS_HIVE",  
        "l1" : null,  
        "l2" : null,  
        "l3" : null,  
        "create_time" : "2023-11-01T17:38:44+08:00",  
        "update_time" : "2023-11-30T16:13:31+08:00",  
        "approval_info" : {  
          "id" : "1179817434769715200",  
          "tenant_id" : null,  
          "name_ch" : null,  
          "name_en" : null,  
          "biz_id" : "1169329693619625984",  
          "biz_type" : null,  
          "biz_info" : null,  
          "biz_info_obj" : null,  
          "biz_version" : 0,  
        }  
      }  
    }  
  }  
}
```

```
"biz_status" : "PUBLISHED",
"approval_status" : "APPROVED",
"approval_type" : null,
"submit_time" : "2023-11-30T16:13:16+08:00",
"create_by" : null,
"l1" : null,
"l2" : null,
"l3" : null,
"approval_time" : "2023-11-30T16:13:16+08:00",
"approver" : "test_uesr",
"email" : null,
"msg" : "Fast Approval OK.",
"directory_path" : null
},
"new_biz" : null,
"dimensions" : [ {
  "id" : "1169329693695123456",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 1,
  "dimension_id" : "1169323046352371712",
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : true,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "name_en" : "rate_code_id",
  "name_ch" : "rate_code_id",
  "not_null" : false,
  "attribute_type" : "FACT_DIMENSION",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123457",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 2,
  "dimension_id" : "1169322847009742848",
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : true,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "name_en" : "vendor_id",
  "name_ch" : "vendor_id",
  "not_null" : false,
  "attribute_type" : "FACT_DIMENSION",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123458",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 3,
  "dimension_id" : "1169323245690863616",
  "role" : null,
```

```
"dimension" : null,
"is_primary_key" : false,
"is_partition_key" : false,
"is_foreign_key" : true,
"secrecy_levels" : [ ],
"description" : "",
"data_type" : "BIGINT",
"domain_type" : "NUMBER",
"data_type_extend" : null,
"name_en" : "payment_type_id",
"name_ch" : "payment_type_id",
"not_null" : false,
"attribute_type" : "FACT_DIMENSION",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123459",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 4,
  "dimension_id" : "1169327565677182976",
  "role" : "dim_pickup",
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : true,
  "secrecy_levels" : [ ],
  "description" : "Dimension Table at the Date Layer",
  "data_type" : "TIMESTAMP",
  "domain_type" : "DATETIME",
  "data_type_extend" : null,
  "name_en" : "dim_pickup_date_key",
  "name_ch" : "Pickup Time",
  "not_null" : false,
  "attribute_type" : "FACT_DIMENSION",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123460",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 5,
  "dimension_id" : "1169327565677182976",
  "role" : "dim_dropoff",
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : true,
  "secrecy_levels" : [ ],
  "description" : "Dimension Table at the Date Layer",
  "data_type" : "TIMESTAMP",
  "domain_type" : "DATETIME",
  "data_type_extend" : null,
  "name_en" : "dim_dropoff_date_key",
  "name_ch" : "Drop-off Time",
  "not_null" : false,
  "attribute_type" : "FACT_DIMENSION",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
} ],
"attributes" : null,
"mappings" : null,
```

```
"measures" : [ {
  "id" : "1169329693695123461",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 6,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "name_en" : "pu_location_id",
  "name_ch" : "pu_location_id",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123462",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 7,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "name_en" : "do_location_id",
  "name_ch" : "do_location_id",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123463",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 8,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "DECIMAL",
  "domain_type" : "NUMBER",
  "data_type_extend" : "(10,2)",
  "name_en" : "fare_amount",
  "name_ch" : "Fare",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
```

```
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123464",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 9,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "DECIMAL",
  "domain_type" : "NUMBER",
  "data_type_extend" : "(10,2)",
  "name_en" : "extra",
  "name_ch" : "Extra Fee",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123465",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 10,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "DECIMAL",
  "domain_type" : "NUMBER",
  "data_type_extend" : "(10,2)",
  "name_en" : "mta_tax",
  "name_ch" : "mta_tax",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123466",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 11,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "DECIMAL",
  "domain_type" : "NUMBER",
  "data_type_extend" : "(10,2)",
  "name_en" : "tip_amount",
  "name_ch" : "Handling Fee",
  "not_null" : false,
```

```
"attribute_type": "FACT_MEASURE",
"stand_row_id": null,
"stand_row_name": null,
"quality_infos": null,
"alias": "",
"self_defined_fields": [ ]
}, {
  "id": "1169329693695123467",
  "fact_logic_table_id": "1169329693619625984",
  "ordinal": 12,
  "dimension_id": null,
  "role": null,
  "dimension": null,
  "is_primary_key": false,
  "is_partition_key": false,
  "is_foreign_key": null,
  "secrecy_levels": [ ],
  "description": "",
  "data_type": "DECIMAL",
  "domain_type": "NUMBER",
  "data_type_extend": "(10,2)",
  "name_en": "tolls_amount",
  "name_ch": "tolls_amount",
  "not_null": false,
  "attribute_type": "FACT_MEASURE",
  "stand_row_id": null,
  "stand_row_name": null,
  "quality_infos": null,
  "alias": "",
  "self_defined_fields": [ ]
}, {
  "id": "1169329693695123468",
  "fact_logic_table_id": "1169329693619625984",
  "ordinal": 13,
  "dimension_id": null,
  "role": null,
  "dimension": null,
  "is_primary_key": false,
  "is_partition_key": false,
  "is_foreign_key": null,
  "secrecy_levels": [ ],
  "description": "",
  "data_type": "DECIMAL",
  "domain_type": "NUMBER",
  "data_type_extend": "(10,2)",
  "name_en": "improvement_surcharge",
  "name_ch": "improvement_surcharge",
  "not_null": false,
  "attribute_type": "FACT_MEASURE",
  "stand_row_id": null,
  "stand_row_name": null,
  "quality_infos": null,
  "alias": "",
  "self_defined_fields": [ ]
}, {
  "id": "1169329693695123469",
  "fact_logic_table_id": "1169329693619625984",
  "ordinal": 14,
  "dimension_id": null,
  "role": null,
  "dimension": null,
  "is_primary_key": false,
  "is_partition_key": false,
  "is_foreign_key": null,
  "secrecy_levels": [ ],
  "description": "",
  "data_type": "DECIMAL",
  "domain_type": "NUMBER",
  "data_type_extend": "(10,2)",
```

```
"name_en" : "total_amount",
"name_ch" : "total_amount",
"not_null" : false,
"attribute_type" : "FACT_MEASURE",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ ]
}],
"table_attributes" : [ {
  "id" : "1169329693695123456",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 1,
  "dimension_id" : "1169323046352371712",
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : true,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "name_en" : "rate_code_id",
  "name_ch" : "rate_code_id",
  "not_null" : false,
  "attribute_type" : "FACT_DIMENSION",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123457",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 2,
  "dimension_id" : "1169322847009742848",
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : true,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "name_en" : "vendor_id",
  "name_ch" : "vendor_id",
  "not_null" : false,
  "attribute_type" : "FACT_DIMENSION",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123458",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 3,
  "dimension_id" : "1169323245690863616",
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : true,
  "secrecy_levels" : [ ],
```

```
"description": "",
"data_type": "BIGINT",
"domain_type": "NUMBER",
"data_type_extend": null,
"name_en": "payment_type_id",
"name_ch": "payment_type_id",
"not_null": false,
"attribute_type": "FACT_DIMENSION",
"stand_row_id": null,
"stand_row_name": null,
"quality_infos": null,
"alias": "",
"self_defined_fields": [ ]
}, {
  "id": "1169329693695123459",
  "fact_logic_table_id": "1169329693619625984",
  "ordinal": 4,
  "dimension_id": "1169327565677182976",
  "role": "dim_pickup",
  "dimension": null,
  "is_primary_key": false,
  "is_partition_key": false,
  "is_foreign_key": true,
  "secrecy_levels": [ ],
  "description": "Dimension Table at the Date Layer",
  "data_type": "TIMESTAMP",
  "domain_type": "DATETIME",
  "data_type_extend": null,
  "name_en": "dim_pickup_date_key",
  "name_ch": "Pickup Time",
  "not_null": false,
  "attribute_type": "FACT_DIMENSION",
  "stand_row_id": null,
  "stand_row_name": null,
  "quality_infos": null,
  "alias": "",
  "self_defined_fields": [ ]
}, {
  "id": "1169329693695123460",
  "fact_logic_table_id": "1169329693619625984",
  "ordinal": 5,
  "dimension_id": "1169327565677182976",
  "role": "dim_dropoff",
  "dimension": null,
  "is_primary_key": false,
  "is_partition_key": false,
  "is_foreign_key": true,
  "secrecy_levels": [ ],
  "description": "Dimension Table at the Date Layer",
  "data_type": "TIMESTAMP",
  "domain_type": "DATETIME",
  "data_type_extend": null,
  "name_en": "dim_dropoff_date_key",
  "name_ch": "Drop-off Time",
  "not_null": false,
  "attribute_type": "FACT_DIMENSION",
  "stand_row_id": null,
  "stand_row_name": null,
  "quality_infos": null,
  "alias": "",
  "self_defined_fields": [ ]
}, {
  "id": "1169329693695123461",
  "fact_logic_table_id": "1169329693619625984",
  "ordinal": 6,
  "dimension_id": null,
  "role": null,
  "dimension": null,
  "is_primary_key": false,
```



```
"is_partition_key" : false,
"is_foreign_key" : null,
"secrecy_levels" : [ ],
"description" : "",
"data_type" : "STRING",
"domain_type" : "STRING",
"data_type_extend" : "",
"name_en" : "pu_location_id",
"name_ch" : "pu_location_id",
"not_null" : false,
"attribute_type" : "FACT_MEASURE",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123462",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 7,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "name_en" : "do_location_id",
  "name_ch" : "do_location_id",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123463",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 8,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "DECIMAL",
  "domain_type" : "NUMBER",
  "data_type_extend" : "(10,2)",
  "name_en" : "fare_amount",
  "name_ch" : "Fare",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123464",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 9,
  "dimension_id" : null,
```

```
"role" : null,
"dimension" : null,
"is_primary_key" : false,
"is_partition_key" : false,
"is_foreign_key" : null,
"secrecy_levels" : [ ],
"description" : "",
"data_type" : "DECIMAL",
"domain_type" : "NUMBER",
"data_type_extend" : "(10,2)",
"name_en" : "extra",
"name_ch" : "Extra Fee",
"not_null" : false,
"attribute_type" : "FACT_MEASURE",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123465",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 10,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "DECIMAL",
  "domain_type" : "NUMBER",
  "data_type_extend" : "(10,2)",
  "name_en" : "mta_tax",
  "name_ch" : "mta_tax",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123466",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 11,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "DECIMAL",
  "domain_type" : "NUMBER",
  "data_type_extend" : "(10,2)",
  "name_en" : "tip_amount",
  "name_ch" : "Handling Fee",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123467",
```

```
"fact_logic_table_id" : "1169329693619625984",
"ordinal" : 12,
"dimension_id" : null,
"role" : null,
"dimension" : null,
"is_primary_key" : false,
"is_partition_key" : false,
"is_foreign_key" : null,
"secrecy_levels" : [ ],
"description" : "",
"data_type" : "DECIMAL",
"domain_type" : "NUMBER",
"data_type_extend" : "(10,2)",
"name_en" : "tolls_amount",
"name_ch" : "Toll",
"not_null" : false,
"attribute_type" : "FACT_MEASURE",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123468",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 13,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "DECIMAL",
  "domain_type" : "NUMBER",
  "data_type_extend" : "(10,2)",
  "name_en" : "improvement_surcharge",
  "name_ch" : "improvement_surcharge",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1169329693695123469",
  "fact_logic_table_id" : "1169329693619625984",
  "ordinal" : 14,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "DECIMAL",
  "domain_type" : "NUMBER",
  "data_type_extend" : "(10,2)",
  "name_en" : "total_amount",
  "name_ch" : "total_amount",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : ""
```

```
"self_defined_fields" : [ ]
}],
"physical_table" : "UPDATE_SUCCESS",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_SUCCESS",
"business_asset" : "UPDATE_SUCCESS",
"meta_data_link" : "UPDATE_SUCCESS",
"data_quality" : "NO_NEED",
"summary_status" : "SUMMARY_SUCCESS",
"quality_id" : null,
"alias" : "",
"configs" : "{}",
"self_defined_fields" : [ ],
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "INVALID_TYPE"
},
"dimension_tables" : [ {
"id" : "1169323047912652800",
"tb_name" : "dim_rate_code",
"tb_logic_name" : "Rate Code",
"l1_id" : "1169309252771299328",
"l2_id" : "1169309574931652608,1169311054568800256",
"l3_id" : null,
"create_by" : "test_uesr",
"description" : "None",
"dimension_id" : "1169323046352371712",
"owner" : "test_uesr",
"dimension_type" : "LOOKUP",
"code_table_id" : "1169315702553886720",
"code_table" : null,
"queue_name" : "",
"dw_id" : "d800f74aedca4e68a95ecbd0569cabfa",
"reversed" : null,
"partition_conf" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"db_name" : "default",
"tb_id" : "NativeTable-d800f74aedca4e68a95ecbd0569cabfa-default-dim_rate_code",
"schema" : "",
"table_type" : "HIVE_TABLE",
"status" : "PUBLISHED",
"tb_guid" : null,
"tb_logic_guid" : "7beab16b-8464-4a9c-8b13-19eb997f8e2c",
"dimension_name" : "Rate Code",
"attributes" : [ {
"id" : "1169323047937818624",
"dimension_logic_table_id" : "1169323047912652800",
"ordinal" : 1,
"dimension_attribute_id" : "1169323046453035008",
"name_en" : "rate_code_id",
"name_ch" : "rate_code_id",
"description" : "",
"data_type" : "BIGINT",
"domain_type" : "NUMBER",
"data_type_extend" : null,
"is_primary_key" : true,
"is_biz_primary" : false,
"is_partition_key" : false,
"not_null" : false,
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : null,
"self_defined_fields" : [ ],
```

```
"secrecy_levels" : [ ]
}, {
  "id" : "1169323047937818625",
  "dimension_logic_table_id" : "1169323047912652800",
  "ordinal" : 2,
  "dimension_attribute_id" : "1169323046453035009",
  "name_en" : "rate_code_value",
  "name_ch" : "Charging Rate Description",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : null,
  "self_defined_fields" : [ ],
  "secrecy_levels" : [ ]
} ],
"dw_type" : "MRS_HIVE",
"dw_name" : null,
"l1" : "Urban traffic",
"l2" : "Common Dimension/Common Dimension",
"l3" : null,
"create_time" : "2023-11-01T17:12:20+08:00",
"update_time" : "2023-11-16T14:27:42+08:00",
"approval_info" : null,
"new_biz" : null,
"physical_table" : "CREATE_SUCCESS",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "UPDATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"materialization" : "NO_NEED",
"summary_status" : "SUMMARY_FAILED",
"distribute" : null,
"distribute_column" : null,
"obs_location" : null,
"quality_id" : null,
"alias" : "",
"configs" : "{}",
"self_defined_fields" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "INVALID_TYPE"
} ]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListDimensionGroupsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListDimensionGroupsRequest request = new ListDimensionGroupsRequest();
        try {
            ListDimensionGroupsResponse response = client.listDimensionGroups(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

```
}  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = ListDimensionGroupsRequest()  
        response = client.list_dimension_groups(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  

```

```
dataartsstudio.DataArtsStudioClientBuilder().
    WithRegion(region.ValueOf("<YOUR REGION>")).
    WithCredential(auth).
    Build())

request := &model.ListDimensionGroupsRequest{}
response, err := client.ListDimensionGroups(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is DerivativeIndexDimensionVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.14.7 View Reverse Dimension Table Task

Function

View the reverse dimension table task.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/dimension/database

Table 7-892 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-893 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-894 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-895 data

Parameter	Type	Description
value	BatchOperationVO object	value: unified outer data structure of the returned result.

Table 7-896 BatchOperationVO

Parameter	Type	Description
id	String	Batch approval ID, which is a string
tenant_id	String	Project ID.
group_id	String	Group ID, which is a string
biz_name	String	Service name.
biz_id	String	Business ID, which is a string
operation_status	String	Operation result type enumeration. RUNNING(Running), SUCCESS(Operation succeeded), and FAILED(Operation failed). Options: <ul style="list-style-type: none"> ● RUNNING: The task is running. ● SUCCESS: The operation is successful. ● FAILED: The operation fails.
operation_type	String	Indicates the type.
biz_info	String	Service details.
create_by	String	Creator.
remark	String	Indicates the remark information.
total	Integer	Total number.
success	Integer	Number of successful operations.
failed	Integer	Indicates the number of failed operations.

Parameter	Type	Description
rate	String	Indicates the current progress.
logs	String	Logs.
groups	Array of BatchOperationVO objects	Group information.

Status code: 400

Table 7-897 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401

Table 7-898 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 403

Table 7-899 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Example Requests

View reverse tasks in the reverse database.

```
GET https://{endpoint}/v2/{project_id}/design/dimension/database
```

Example Responses

Status code: 200

Success

```
{
  "data" : {
```

```
"value" : {
  "id" : null,
  "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-eeb055e69c624311b6b9cfee89a4ec70",
  "group_id" : "1231306126000304128",
  "biz_name" : null,
  "biz_id" : null,
  "operation_status" : "RUNNING",
  "operation_type" : "DIMENSION_REVERSE_DB",
  "biz_info" : null,
  "create_by" : "test_uesr",
  "remark" : null,
  "total" : 1,
  "success" : 0,
  "failed" : 0,
  "rate" : "0.00",
  "logs" : null,
  "groups" : null
}
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class CheckDimensionStatusSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CheckDimensionStatusRequest request = new CheckDimensionStatusRequest();
        try {
            CheckDimensionStatusResponse response = client.checkDimensionStatus(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        }
    }
}
```

```
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CheckDimensionStatusRequest()
        response = client.check_dimension_status(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"
```

```
auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.CheckDimensionStatusRequest{}
response, err := client.CheckDimensionStatus(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden

7.15 Filters

7.15.1 Searching for a Service Filter

Function

Search for filter information by name, description, creator, reviewer, filter group ID, modification time, and status.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/conditions

Table 7-900 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-901 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be approved• PUBLISHED: released• OFFLINE_DEVELOPING: to be approved• OFFLINE: offline• REJECT: rejected
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Mandatory	Type	Description
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-902 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-903 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-904 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-905 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of ConditionVO objects	ConditionVO information.

Table 7-906 ConditionVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Parameter
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
condition_fn	String	Limit the calculation method. Options: <ul style="list-style-type: none"> • LAST_YEAR: previous year • CURRENT_YEAR: current year • BETWEEN_YEAR: user-defined year range • LAST_MONTH: last month • CURRENT_MONTH: current month • BETWEEN_MONTH: customized month range • LAST_DAY: previous day • CURRENT_DAY: current day • BETWEEN_DAY: customized day range • LAST_HOUR: last hour • CURRENT_HOUR: current hour • BETWEEN_HOUR: customized hour range • LAST_MINUTE: last minute • CURRENT_MINUTE: current minute • BETWEEN_MINUTE: customized minute range
condition_fn_param	String	Limit calculation parameters.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
base_time	Integer	Indicates the reference time.

Table 7-907 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.

Parameter	Type	Description
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-908 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400**Table 7-909** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-910 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-911 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Search for the time filter information.

```
GET https://{endpoint}/v2/{project_id}/design/conditions?condition_type=TIME_CONDITION
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a ConditionVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 29,
      "records": [ {
        "id": "1204396387974955008",
        "name_en": "last_month",
        "name_ch": "Previous month",
        "description": "",
        "create_by": "test_uesr",
        "condition_fn": "LAST_MONTH",
        "condition_fn_param": "0",
        "status": "PUBLISHED",
        "create_time": "2024-02-06T12:01:15+08:00",
        "update_time": "2024-03-07T18:01:43+08:00",
        "approval_info": {
          "id": "1215358735950708736",
          "tenant_id": null,

```

```
"name_ch" : null,
"name_en" : null,
"biz_id" : "1204396387974955008",
"biz_type" : null,
"biz_info" : null,
"biz_info_obj" : null,
"biz_version" : 0,
"biz_status" : "PUBLISHED",
"approval_status" : "APPROVED",
"approval_type" : null,
"submit_time" : "2024-03-07T18:01:43+08:00",
"create_by" : null,
"l1" : null,
"l2" : null,
"l3" : null,
"approval_time" : "2024-03-07T18:01:43+08:00",
"approver" : "test_uesr",
"email" : null,
"msg" : "Fast Approval OK.",
"directory_path" : null
},
"new_biz" : null,
"base_time" : 1
}, {
  "id" : "1167067126117302272",
  "name_en" : "t003",
  "name_ch" : "t003",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "LAST_YEAR",
  "condition_fn_param" : "0",
  "status" : "PUBLISHED",
  "create_time" : "2023-10-26T11:48:06+08:00",
  "update_time" : "2023-11-09T13:36:28+08:00",
  "approval_info" : {
    "id" : "1172167829596860416",
    "tenant_id" : null,
    "name_ch" : null,
    "name_en" : null,
    "biz_id" : "1167067126117302272",
    "biz_type" : null,
    "biz_info" : null,
    "biz_info_obj" : null,
    "biz_version" : 0,
    "biz_status" : "PUBLISHED",
    "approval_status" : "APPROVED",
    "approval_type" : null,
    "submit_time" : "2023-11-09T13:36:28+08:00",
    "create_by" : null,
    "l1" : null,
    "l2" : null,
    "l3" : null,
    "approval_time" : "2023-11-09T13:36:28+08:00",
    "approver" : "test_uesr",
    "email" : null,
    "msg" : "Fast Approval OK. (Associated Publish By t003, Automatic Approval.)",
    "directory_path" : null
  },
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1163941657377488896",
  "name_en" : "t002",
  "name_ch" : "t002",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "LAST_YEAR",
  "condition_fn_param" : "0",
  "status" : "PUBLISHED",
```

```
"create_time" : "2023-10-17T20:48:36+08:00",
"update_time" : "2023-10-18T13:57:14+08:00",
"approval_info" : {
  "id" : "1163941893843959808",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1163941657377488896",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2023-10-17T20:49:32+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2023-10-17T21:20:02+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "1",
  "directory_path" : null
},
"new_biz" : {
  "id" : null,
  "biz_type" : "TIME_CONDITION",
  "biz_id" : "1163941657377488896",
  "biz_info" : "{\\"versionName\\":null,\\"versionTag\\":null,\\"versionId\\":null,\\"createBy\\":\\"0833a573fe80d5401f6dc010a775569a\\",\\"updateBy\\":\\"0833a573fe80d5401f6dc010a775569a\\",\\"createTime\\":1697546916000,\\"updateTime\\":1698292074309,\\"l3Id\\":null,\\"l2Id\\":null,\\"alias\\":null,\\"encoding\\":null,\\"prefix\\":null,\\"codeNum\\":null,\\"id\\":\\"1163941657377488896\\",\\"tenantId\\":\\"0833a5737480d53b2f25c010dc1a7b88-workspace-eeb055e69c624311b6b9cfee89a4ec70\\",\\"nameCh\\":\\"t002\\",\\"nameEn\\":\\"t002\\",\\"description\\":\\"\\",\\"conditionFn\\":\\"LAST_YEAR\\",\\"calExp\\":null,\\"conditionFnParam\\":\\"0\\",\\"status\\":\\"PUBLISHED\\",\\"enableFlag\\":true,\\"nameTranslate\\":null,\\"descriptionTranslate\\":null,\\"baseTime\\":null,\\"lastL2Id\\":null}",
  "status" : "DRAFT",
  "biz_version" : 0,
  "create_time" : "2023-10-26T11:47:54+08:00",
  "update_time" : "2023-10-26T11:47:54+08:00"
},
"base_time" : null
}, {
  "id" : "1163941632085835776",
  "name_en" : "t001",
  "name_ch" : "t001",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "LAST_YEAR",
  "condition_fn_param" : "0",
  "status" : "OFFLINE",
  "create_time" : "2023-10-17T20:48:30+08:00",
  "update_time" : "2023-10-24T20:15:22+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1163884268984922112",
  "name_en" : "sj1017",
  "name_ch" : "sj1017",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "LAST_YEAR",
  "condition_fn_param" : "0",
  "status" : "PUBLISHED",
  "create_time" : "2023-10-17T17:00:34+08:00",
  "update_time" : "2023-10-30T16:37:42+08:00",
```

```
"approval_info" : {
  "id" : "1163926109700734976",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1163884268984922112",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2023-10-17T19:46:49+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2023-10-17T19:50:00+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "ok",
  "directory_path" : null
},
"new_biz" : null,
"base_time" : null
}, {
  "id" : "1155167466507448320",
  "name_en" : "lix",
  "name_ch" : "lix",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "LAST_MONTH",
  "condition_fn_param" : "0",
  "status" : "PUBLISHED",
  "create_time" : "2023-09-23T15:43:06+08:00",
  "update_time" : "2023-10-17T20:46:11+08:00",
  "approval_info" : {
    "id" : "1155919632490725376",
    "tenant_id" : null,
    "name_ch" : null,
    "name_en" : null,
    "biz_id" : "1155167466507448320",
    "biz_type" : null,
    "biz_info" : null,
    "biz_info_obj" : null,
    "biz_version" : 0,
    "biz_status" : "PUBLISHED",
    "approval_status" : "APPROVED",
    "approval_type" : null,
    "submit_time" : "2023-09-25T17:31:56+08:00",
    "create_by" : null,
    "l1" : null,
    "l2" : null,
    "l3" : null,
    "approval_time" : "2023-09-25T17:31:56+08:00",
    "approver" : "test_uesr",
    "email" : null,
    "msg" : "Fast Approval OK. (Associated Publish By lix, Automatic Approval.)",
    "directory_path" : null
  },
  "new_biz" : {
    "id" : null,
    "biz_type" : "TIME_CONDITION",
    "biz_id" : "1155167466507448320",
    "biz_info" : "{\\"versionName\\":null,\\"versionTag\\":null,\\"versionId\\":null,\\"createBy\\":\\"0833a573fe80d5401f6dc010a775569a\\",\\"updateBy\\":\\"0833a573fe80d5401f6dc010a775569a\\",\\"createTime\\":1695454986000,\\"updateTime\\":1698149390708,\\"l3Id\\":null,\\"l2Id\\":null,\\"alias\\":null,\\"encoding\\":null,\\"prefix\\":null,\\"codeNum\\":null,\\"id\\":\\"1155167466507448320\\",\\"tenantId"
```

```
\\:"0833a5737480d53b2f25c010dc1a7b88-workspace-eeb055e69c624311b6b9cfee89a4ec70\\","nameCh
\\:"lix\\","nameEn\\:"lix\\","description\\:"\\","conditionFn\\:"LAST_MONTH\\","calExp
\\:"null\\","conditionFnParam\\:"0\\","status\\:"PUBLISHED\\","enableFlag\\:"true\\","nameTranslate
\\:"null\\","descriptionTranslate\\:"null\\","baseTime\\":2\\,"lastL2Id\\":null},"
  "status" : "DRAFT",
  "biz_version" : 0,
  "create_time" : "2023-10-24T20:09:51+08:00",
  "update_time" : "2023-10-24T20:09:51+08:00"
},
"base_time" : 2
}, {
  "id" : "1154507394794024960",
  "name_en" : "oi11",
  "name_ch" : "oi11",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "LAST_YEAR",
  "condition_fn_param" : "0",
  "status" : "PUBLISHED",
  "create_time" : "2023-09-21T20:00:13+08:00",
  "update_time" : "2023-10-17T16:54:20+08:00",
  "approval_info" : {
    "id" : "1163882705348386816",
    "tenant_id" : null,
    "name_ch" : null,
    "name_en" : null,
    "biz_id" : "1154507394794024960",
    "biz_type" : null,
    "biz_info" : null,
    "biz_info_obj" : null,
    "biz_version" : 0,
    "biz_status" : "PUBLISHED",
    "approval_status" : "APPROVED",
    "approval_type" : null,
    "submit_time" : "2023-10-17T16:54:21+08:00",
    "create_by" : null,
    "l1" : null,
    "l2" : null,
    "l3" : null,
    "approval_time" : "2023-10-17T16:54:20+08:00",
    "approver" : "test_uesr",
    "email" : null,
    "msg" : "Fast Approval OK.",
    "directory_path" : null
  },
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1154507340083523584",
  "name_en" : "lxy0101",
  "name_ch" : "lxy0101",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "LAST_YEAR",
  "condition_fn_param" : "0",
  "status" : "PUBLISHED",
  "create_time" : "2023-09-21T20:00:00+08:00",
  "update_time" : "2023-10-30T16:37:06+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1150823722467344384",
  "name_en" : "current_month",
  "name_ch" : "Current Month",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "CURRENT_MONTH",
  "condition_fn_param" : "0",
```



```
"status" : "PUBLISHED",
"create_time" : "2023-09-11T16:02:37+08:00",
"update_time" : "2023-09-11T16:02:37+08:00",
"approval_info" : {
  "id" : "1150823723427840000",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1150823722467344384",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2023-09-11T16:02:37+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2023-09-11T16:02:37+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "Fast Approval OK.",
  "directory_path" : null
},
"new_biz" : null,
"base_time" : 1
}, {
  "id" : "1128840997309136896",
  "name_en" : "aa",
  "name_ch" : "a",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-1,1",
  "status" : "REJECT",
  "create_time" : "2023-07-13T00:11:07+08:00",
  "update_time" : "2024-02-27T21:44:53+08:00",
  "approval_info" : {
    "id" : "1200506282973483008",
    "tenant_id" : null,
    "name_ch" : null,
    "name_en" : null,
    "biz_id" : "1128840997309136896",
    "biz_type" : null,
    "biz_info" : null,
    "biz_info_obj" : null,
    "biz_version" : 0,
    "biz_status" : "REJECT",
    "approval_status" : "REJECT",
    "approval_type" : null,
    "submit_time" : "2024-01-26T18:23:22+08:00",
    "create_by" : null,
    "l1" : null,
    "l2" : null,
    "l3" : null,
    "approval_time" : "2024-02-27T21:44:53+08:00",
    "approver" : "test_uesr",
    "email" : null,
    "msg" : "no",
    "directory_path" : null
  },
  "new_biz" : null,
  "base_time" : 1
}, {
  "id" : "1128832688892035072",
  "name_en" : "last_year",
```

```
"name_ch": "One Year Before",
"description": "",
"create_by": "test_uesr",
"condition_fn": "LAST_YEAR",
"condition_fn_param": "0",
"status": "PUBLISHED",
"create_time": "2023-07-12T23:38:06+08:00",
"update_time": "2023-07-12T23:38:11+08:00",
"approval_info": {
  "id": "1128832714003333120",
  "tenant_id": null,
  "name_ch": null,
  "name_en": null,
  "biz_id": "1128832688892035072",
  "biz_type": null,
  "biz_info": null,
  "biz_info_obj": null,
  "biz_version": 0,
  "biz_status": "PUBLISHED",
  "approval_status": "APPROVED",
  "approval_type": null,
  "submit_time": "2023-07-12T23:38:12+08:00",
  "create_by": null,
  "l1": null,
  "l2": null,
  "l3": null,
  "approval_time": "2023-07-12T23:38:11+08:00",
  "approver": "test_uesr",
  "email": null,
  "msg": "Fast Approval OK.",
  "directory_path": null
},
"new_biz": null,
"base_time": null
}, {
  "id": "1128831725523312640",
  "name_en": "bbbb",
  "name_ch": "bbb",
  "description": "",
  "create_by": "test_uesr",
  "condition_fn": "LAST_YEAR",
  "condition_fn_param": "0",
  "status": "DRAFT",
  "create_time": "2023-07-12T23:34:16+08:00",
  "update_time": "2023-07-12T23:34:16+08:00",
  "approval_info": null,
  "new_biz": null,
  "base_time": null
}, {
  "id": "1128831552864788480",
  "name_en": "aaa",
  "name_ch": "aaa",
  "description": "",
  "create_by": "test_uesr",
  "condition_fn": "CURRENT_YEAR",
  "condition_fn_param": "0",
  "status": "DRAFT",
  "create_time": "2023-07-12T23:33:35+08:00",
  "update_time": "2023-07-12T23:34:33+08:00",
  "approval_info": null,
  "new_biz": null,
  "base_time": null
}, {
  "id": "1109414797142806528",
  "name_en": "1m_year_on_year",
  "name_ch": "Last 30 Days_Same Period Last Year",
  "description": "",
  "create_by": "test_uesr",
  "condition_fn": "BETWEEN_DAY",
```

```
"condition_fn_param" : "-395,-365",
"status" : "PUBLISHED",
"create_time" : "2023-05-20T09:38:20+08:00",
"update_time" : "2023-05-20T09:38:19+08:00",
"approval_info" : {
  "id" : "1109414797620957184",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1109414797142806528",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2023-05-20T09:38:20+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2023-05-20T09:38:19+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "Fast Approval OK.",
  "directory_path" : null
},
"new_biz" : {
  "id" : null,
  "biz_type" : "TIME_CONDITION",
  "biz_id" : "1109414797142806528",
  "biz_info" : "{\versionName\":null,\versionTag\":null,\versionId\":null,\createBy
\":\0833a573fe80d5401f6dc010a775569a\",updateBy\":null,\createTime\":1684546700000,\updateTime
\":1684546699000,\l3Id\":null,\l2Id\":null,\alias\":null,\encoding\":null,\prefix\":null,\codeNum
\":null,\id\":\1109414797142806528\",tenantId\":\0833a5737480d53b2f25c010dc1a7b88-workspace-
eeb055e69c624311b6b9cfee89a4ec70\",nameCh\": \"in the Last 30 Days_\",nameEn
\":\1m_year_on_year\",description\":\\",conditionFn\":\BETWEEN_DAY\",calExp
\":null,\conditionFnParam\":\-395,-365\",status\":\PUBLISHED\",enableFlag\":true,\nameTranslate
\":null,\descriptionTranslate\":null,\baseTime\":null,\lastL2Id\":null} in the Same Period Last Year",
  "status" : "DRAFT",
  "biz_version" : 0,
  "create_time" : "2023-06-01T14:17:10+08:00",
  "update_time" : "2023-06-01T14:17:10+08:00"
},
"base_time" : null
}, {
  "id" : "1109414655866064896",
  "name_en" : "1m_prior_period",
  "name_ch" : "Last 30 Days_Previous Period",
  "description" : "",
  "create_by" : "test_uesr",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-60,-30",
  "status" : "PUBLISHED",
  "create_time" : "2023-05-20T09:37:46+08:00",
  "update_time" : "2023-05-20T09:37:46+08:00",
  "approval_info" : {
    "id" : "1109414656310661120",
    "tenant_id" : null,
    "name_ch" : null,
    "name_en" : null,
    "biz_id" : "1109414655866064896",
    "biz_type" : null,
    "biz_info" : null,
    "biz_info_obj" : null,
    "biz_version" : 0,
    "biz_status" : "PUBLISHED",
    "approval_status" : "APPROVED",
```

```
"approval_type" : null,
"submit_time" : "2023-05-20T09:37:46+08:00",
"create_by" : null,
"l1" : null,
"l2" : null,
"l3" : null,
"approval_time" : "2023-05-20T09:37:46+08:00",
"approver" : "test_uesr",
"email" : null,
"msg" : "Fast Approval OK.",
"directory_path" : null
},
"new_biz" : null,
"base_time" : null
}, {
"id" : "1013133487357812749",
"name_en" : "f4w",
"name_ch" : "Next 4 weeks",
"description" : "Daily average value of historical data x 7 x 4",
"create_by" : "SYSTEM",
"condition_fn" : "BETWEEN_DAY",
"condition_fn_param" : "1,28",
"status" : "PUBLISHED",
"create_time" : "2022-08-27T17:10:46+08:00",
"update_time" : "2022-08-27T17:10:46+08:00",
"approval_info" : null,
"new_biz" : null,
"base_time" : null
}, {
"id" : "1013133487357812748",
"name_en" : "f1w",
"name_ch" : "Next 7 days",
"description" : "Daily average value of historical data x 7",
"create_by" : "SYSTEM",
"condition_fn" : "BETWEEN_DAY",
"condition_fn_param" : "1,7",
"status" : "PUBLISHED",
"create_time" : "2022-08-27T17:10:46+08:00",
"update_time" : "2022-08-27T17:10:46+08:00",
"approval_info" : null,
"new_biz" : null,
"base_time" : null
}, {
"id" : "1013133487357812747",
"name_en" : "1h",
"name_ch" : "Last 1 hour.",
"description" : "Data of the Last Hour",
"create_by" : "SYSTEM",
"condition_fn" : "BETWEEN_HOUR",
"condition_fn_param" : "-1,-1",
"status" : "PUBLISHED",
"create_time" : "2022-08-27T17:10:46+08:00",
"update_time" : "2022-08-27T17:10:46+08:00",
"approval_info" : null,
"new_biz" : null,
"base_time" : null
}, {
"id" : "1013133487357812746",
"name_en" : "td",
"name_ch" : "By the current day",
"description" : "All data (in the last 10 years) by the calculation date (included)",
"create_by" : "SYSTEM",
"condition_fn" : "BETWEEN_DAY",
"condition_fn_param" : "-3650,0",
"status" : "PUBLISHED",
"create_time" : "2022-08-27T17:10:46+08:00",
"update_time" : "2022-08-27T17:10:46+08:00",
"approval_info" : null,
"new_biz" : null,
```

```
"base_time" : null
}, {
  "id" : "1013133487357812745",
  "name_en" : "b30d",
  "name_ch" : "One day 30 days ago",
  "description" : "Data of the 31st day before",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-31,-30",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
  "update_time" : "2022-08-27T17:10:46+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1013133487357812744",
  "name_en" : "bh",
  "name_ch" : "All 180 days ago",
  "description" : "All data (in the last 10 years) by 180 days ago (the 181st day before), before half-year",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-3650,-181",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
  "update_time" : "2022-08-27T17:10:46+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1013133487357812743",
  "name_en" : "6m",
  "name_ch" : "Last 180 days",
  "description" : "Data of 180 Days Up to Yesterday",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-180,-1",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
  "update_time" : "2022-08-27T17:10:46+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1013133487357812742",
  "name_en" : "3m",
  "name_ch" : "Last 90 days",
  "description" : "Data of 90 Days Up to Yesterday",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-90,-1",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
  "update_time" : "2022-08-27T17:10:46+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1013133487357812741",
  "name_en" : "2m",
  "name_ch" : "Last 60 days",
  "description" : "Data of 60 Days Up to Yesterday",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-60,-1",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
  "update_time" : "2022-08-27T17:10:46+08:00",
```

```
"approval_info" : null,
"new_biz" : null,
"base_time" : null
}, {
  "id" : "1013133487357812740",
  "name_en" : "1m",
  "name_ch" : "Latest 30 days",
  "description" : "Data of 30 Days Up to Yesterday",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-30,-1",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
  "update_time" : "2022-08-27T17:10:46+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1013133487357812739",
  "name_en" : "2w",
  "name_ch" : "Last 14 days",
  "description" : "Data of 14 Days Up to Yesterday",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-14,-1",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
  "update_time" : "2022-08-27T17:10:46+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1013133487357812738",
  "name_en" : "1w",
  "name_ch" : "Last 7 days",
  "description" : "Data of Seven Days Up to Yesterday",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-7,-1",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
  "update_time" : "2022-08-27T17:10:46+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1013133487357812737",
  "name_en" : "3d",
  "name_ch" : "Last 3 days",
  "description" : "Data of Three Days Up to Yesterday",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-3,-1",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
  "update_time" : "2022-08-27T17:10:46+08:00",
  "approval_info" : null,
  "new_biz" : null,
  "base_time" : null
}, {
  "id" : "1013133487357812736",
  "name_en" : "1d",
  "name_ch" : "Last 24 hours",
  "description" : "Yesterday's value",
  "create_by" : "SYSTEM",
  "condition_fn" : "BETWEEN_DAY",
  "condition_fn_param" : "-1,-1",
  "status" : "PUBLISHED",
  "create_time" : "2022-08-27T17:10:46+08:00",
```

```
"update_time" : "2022-08-27T17:10:46+08:00",
"approval_info" : null,
"new_biz" : null,
"base_time" : null
}]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListConditionSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
```

```
.withAk(ak)
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListConditionRequest request = new ListConditionRequest();
try {
    ListConditionResponse response = client.listCondition(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListConditionRequest()
        response = client.list_condition(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
```



```
dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListConditionRequest{}
    response, err := client.ListCondition(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a ConditionVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.15.2 Viewing Restriction Details

Function

This API is used to query restriction details by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/conditions/{id}

Table 7-912 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-913 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-914 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-915 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-916 data

Parameter	Type	Description
value	ConditionVO object	value: unified outer data structure of the returned result.

Table 7-917 ConditionVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Parameter
name_ch	String	Service attribute.

Parameter	Type	Description
description	String	Description.
create_by	String	Creator.
condition_fn	String	Limit the calculation method. Options: <ul style="list-style-type: none"> • LAST_YEAR: previous year • CURRENT_YEAR: current year • BETWEEN_YEAR: user-defined year range • LAST_MONTH: last month • CURRENT_MONTH: current month • BETWEEN_MONTH: customized month range • LAST_DAY: previous day • CURRENT_DAY: current day • BETWEEN_DAY: customized day range • LAST_HOUR: last hour • CURRENT_HOUR: current hour • BETWEEN_HOUR: customized hour range • LAST_MINUTE: last minute • CURRENT_MINUTE: current minute • BETWEEN_MINUTE: customized minute range
condition_fn_param	String	Limit calculation parameters.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
base_time	Integer	Indicates the reference time.

Table 7-918 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-919 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-920 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-921 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-922 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query restriction details by ID.

```
GET https://{endpoint}/v2/{project_id}/design/conditions/873154196235517965
```

Example Responses

Status code: 200

This operation is successful, and the returned data is ConditionVO details.

```
{
  "data": {
    "value": {
      "id": "873154196235517965",
      "name_en": "f4w",
      "name_ch": "Next 4 weeks",
      "description": "Daily average value of historical data x 7 x 4",
      "create_by": "SYSTEM",
      "condition_fn": "BETWEEN_DAY",
      "condition_fn_param": "1,28",
      "status": "PUBLISHED",
      "create_time": "2021-08-06T10:43:03+08:00",
      "update_time": "2021-08-06T10:43:03+08:00",
      "approval_info": null,
      "new_biz": null,
      "base_time": null
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowConditionByIdSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowConditionByIdRequest request = new ShowConditionByIdRequest();
        request.withId("{id}");
```

```
try {
    ShowConditionByIdResponse response = client.showConditionById(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowConditionByIdRequest()
        request.id = "{id}"
        response = client.show_condition_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```

```
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ShowConditionByIdRequest{}
request.Id = "{id}"
response, err := client.ShowConditionById(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is ConditionVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.16 Dimension Tables

7.16.1 Searching for a Dimension Table

Function

Search for dimension table information by Chinese and English names, creator, reviewer, status, and modification time.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/dimension-logic-tables

Table 7-923 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-924 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
owner	No	String	Query by owner.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">● DRAFT: draft● PUBLISH_DEVELOPING: to be approved● PUBLISHED: released● OFFLINE_DEVELOPING: to be approved● OFFLINE: offline● REJECT: rejected

Parameter	Mandatory	Type	Description
sync_status	No	String	Defines the enumeration of the synchronization status. Options: <ul style="list-style-type: none"> ● RUNNING: synchronizing ● NO_NEED: not synchronized ● SUMMARY_SUCCESS: overall success ● SUMMARY_FAILED: overall failure
sync_key	No	Array of strings	Defines the enumeration of synchronization task types. Options: <ul style="list-style-type: none"> ● BUSINESS_ASSET: synchronizes service assets. ● DATA_QUALITY: Create a quality job. ● TECHNICAL_ASSET: synchronizes technology assets. ● META_DATA_LINK: asset association ● PHYSICAL_TABLE: Create a table (production environment). ● DEV_PHYSICAL_TABLE: Create a table in the development environment. ● DLF_TASK: creates a data development job. ● MATERIALIZATION: Data is stored in the database (code table). ● PUBLISH_TO_DLM: publishes data service APIs. ● SUMMARY_STATUS: overall status
l2_id	No	String	ID of subject area l2, which is a string
dimension_id	No	String	ID of the dimension based on which dimension attributes are queried. The ID is a string.

Parameter	Mandatory	Type	Description
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
biz_catalog_id	No	String	ID of the service catalog to which the belongs.
dimension_type	No	String	Dimension type. Options: <ul style="list-style-type: none"> ● COMMON: common dimension ● LOOKUP: code table dimension ● HIERARCHIES: hierarchy dimension

Request Parameters

Table 7-925 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-926** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-927 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-928 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of DimensionLogicTableVO objects	DimensionVO information.

Table 7-929 DimensionLogicTableVO

Parameter	Type	Description
id	String	Table ID
tb_name	String	Table name
tb_logic_name	String	Name of a logical entity.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
create_by	String	Creator.
description	String	Description.
dimension_id	String	Dimension ID, which is a string
owner	String	Asset owner.
dimension_type	String	Dimension type. Options: <ul style="list-style-type: none"> • COMMON: common dimension • LOOKUP: code table dimension • HIERARCHIES: hierarchy dimension

Parameter	Type	Description
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
code_table	CodeTableVO object	Reference lookup table, which is read-only.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
dw_id	String	Data connection ID.
reversed	Boolean	Indicates whether it is reverse.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
db_name	String	Database name.
tb_id	String	Data table ID. This parameter is read-only.
schema	String	Required by the DWS type.
table_type	String	Table type
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">● DRAFT: draft● PUBLISH_DEVELOPING: to be reviewed● PUBLISHED: released● OFFLINE_DEVELOPING: to be reviewed● OFFLINE: offline● REJECT: rejected

Parameter	Type	Description
tb_guid	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dimension_name	String	Associated dimension name, which is read-only.
attributes	Array of DimensionLogicTableAttributeVO objects	Field attribute.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
technical_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
data_quality	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
materialization	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
distribute	String	DISTRIBUTE BY [HASH(column)] REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
quality_id	String	Quality ID, which is a string
alias	String	Alias

Parameter	Type	Description
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
obs_location	String	Foreign Table Path
configs	String	Other Configurations
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	Long	Model ID
model	WorkspaceVO object	Model information

Table 7-930 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.

Parameter	Type	Description
description	String	Description.
create_by	String	Creator.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldVO objects	Code list attribute information.

Table 7-931 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string

Parameter	Type	Description
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-932 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Table 7-933 DimensionLogicTableAttributeVO

Parameter	Type	Description
id	String	Dimension table ID, which is a string
dimension_logic_table_id	String	ID of the dimension table.
ordinal	Integer	No.
dimension_attribute_id	String	Dimension attribute ID, which is a string
name_en	String	Field name, which is read-only.
name_ch	String	Service attribute. This parameter is read-only.
description	String	Description, which is read-only.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key. This parameter is read-only.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether the partition is a primary key partition. This parameter is read-only.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias

Parameter	Type	Description
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality

Table 7-934 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-935 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-936 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-937 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-938 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-939 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.

Parameter	Type	Description
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.

Parameter	Type	Description
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-940 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-941 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-942 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Searches for dimension tables based on search criteria in pagination mode.

```
GET https://{endpoint}/v2/{project_id}/design/dimension-logic-tables?offset=1&limit=10
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a DimensionLogicTableVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "id": "1222930979413499904",
        "tb_name": "dim_test_czh_0328",
        "tb_logic_name": "test_czh_0328",
        "l1_id": "1194966710038474752",
        "l2_id": null,
        "l3_id": null,
        "create_by": "test_uesr",
        "description": "N/A",
        "dimension_id": "1222930977286987776",
        "owner": "afcaca",
        "dimension_type": "COMMON",
        "code_table_id": null,
        "code_table": null,
        "queue_name": "default",
        "dw_id": "8259af52bd294f98920ebce75a426391",
        "reversed": null,
        "partition_conf": null,
        "dirty_out_switch": false,
        "dirty_out_database": "",
        "dirty_out_prefix": "",
        "dirty_out_suffix": "",
        "db_name": "bi",
        "tb_id": null,
        "schema": "",
        "table_type": "MANAGED",
        "status": "PUBLISHED",
        "tb_guid": null,
        "tb_logic_guid": "712edcdd-3bba-4077-b182-4a1f17e5bcd8",
        "dimension_name": "test_czh_0328",
        "attributes": [ {
          "id": "1222930979442860032",
          "dimension_logic_table_id": "1222930979413499904",
          "ordinal": 1,
          "dimension_attribute_id": "1222930977370873856",
          "name_en": "dim_test_czh_0328_key",
          "name_ch": "test_czh_0328",
          "description": "",
          "data_type": "BIGINT",
          "domain_type": "NUMBER",
          "data_type_extend": null,
          "is_primary_key": true,
          "is_biz_primary": false,
          "is_partition_key": false,
          "not_null": false,
          "stand_row_id": null,
          "stand_row_name": null,
          "quality_infos": null,
        }
      ]
    }
  }
}
```

```
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "aa",
  "fd_name_en" : "aa",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : ""
} ],
"secrecy_levels" : [ ]
}, {
  "id" : "1222930979442860033",
  "dimension_logic_table_id" : "1222930979413499904",
  "ordinal" : 2,
  "dimension_attribute_id" : "1222930977370873857",
  "name_en" : "aaa",
  "name_ch" : "aaa",
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : ""
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : ""
  } ],
  "secrecy_levels" : [ ]
}, {
  "id" : "1222930979442860034",
  "dimension_logic_table_id" : "1222930979413499904",
  "ordinal" : 3,
  "dimension_attribute_id" : "1222930977370873858",
  "name_en" : "bbb",
  "name_ch" : "bbb",
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : ""
  }, {

```

```
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : ""
  } ],
  "secrecy_levels" : [ ]
} ],
"dw_type" : "DWS",
"dw_name" : null,
"l1" : "test_czh_catalog",
"l2" : null,
"l3" : null,
"create_time" : "2024-03-28T15:31:06+08:00",
"update_time" : "2024-03-28T15:31:10+08:00",
"approval_info" : {
  "id" : "1222930978226511872",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1222930977286987776",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "PUBLISHED",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2024-03-28T15:31:06+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2024-03-28T15:31:06+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "Fast Approval OK.",
  "directory_path" : null
},
"new_biz" : null,
"physical_table" : "CREATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "CREATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"materialization" : null,
"summary_status" : "SUMMARY_FAILED",
"distribute" : null,
"distribute_column" : null,
"obs_location" : null,
"quality_id" : null,
"alias" : "",
"configs" : "{}",
"self_defined_fields" : [ {
  "fd_name_ch" : "User-defined item 1",
  "fd_name_en" : "selfDefine1",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "User-defined item 2",
  "fd_name_en" : "selfDefine2",
  "not_null" : true,
  "fd_value" : "adada"
} ],
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
```



```
    }  
  }  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ListDimensionLogicTablesSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
```

```
        .withCredential(auth)
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
ListDimensionLogicTablesRequest request = new ListDimensionLogicTablesRequest();
try {
    ListDimensionLogicTablesResponse response = client.listDimensionLogicTables(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListDimensionLogicTablesRequest()
        response = client.list_dimension_logic_tables(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)
```

```
func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListDimensionLogicTablesRequest{}
    response, err := client.ListDimensionLogicTables(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a DimensionLogicTableVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.16.2 Deleting Dimension Tables

Function

This API is used to delete dimension tables with specified IDs.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/dimension-logic-tables

Table 7-943 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-944 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none">• PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-945 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-946 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-947 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-948 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-949 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Delete dimension tables based on the input parameters. Only dimension tables in the draft, offline, or rejected state can be deleted.

```
DELETE https://{endpoint}/v2/{project_id}/design/atomic-indexs
{
  "ids" : [ "1227990857618227200" ]
}
```

Example Responses

Status code: 200

The operation succeeds, and the number of deleted dimensions is returned.

```
{
  "value" : 1
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Delete dimension tables based on the input parameters. Only dimension tables in the draft, offline, or rejected state can be deleted.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
```

```
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteDesignDimensionLogicTableSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteDesignDimensionLogicTableRequest request = new DeleteDesignDimensionLogicTableRequest();
        IdsParam body = new IdsParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1227990857618227200");
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
            DeleteDesignDimensionLogicTableResponse response =
            client.deleteDesignDimensionLogicTable(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Delete dimension tables based on the input parameters. Only dimension tables in the draft, offline, or rejected state can be deleted.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
```

```
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = DeleteDesignDimensionLogicTableRequest()
    listIdsbody = [
        "1227990857618227200"
    ]
    request.body = IdsParam(
        ids=listIdsbody
    )
    response = client.delete_design_dimension_logic_table(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Delete dimension tables based on the input parameters. Only dimension tables in the draft, offline, or rejected state can be deleted.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteDesignDimensionLogicTableRequest{}
    var listIdsbody = []string{
        "1227990857618227200",
    }
}
```



```
request.Body = &model.IdsParam{
    Ids: listIdsbody,
}
response, err := client.DeleteDesignDimensionLogicTable(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds, and the number of deleted dimensions is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.16.3 Viewing Dimension Table Details

Function

This API is used to view details about a dimension table by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/dimension-logic-tables/{id}

Table 7-950 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-951 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-952 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-953 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-954 data

Parameter	Type	Description
value	DimensionLogicTableVO object	value: unified outer data structure of the returned result.

Table 7-955 DimensionLogicTableVO

Parameter	Type	Description
id	String	Table ID
tb_name	String	Table name
tb_logic_name	String	Name of a logical entity.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
create_by	String	Creator.
description	String	Description.
dimension_id	String	Dimension ID, which is a string
owner	String	Asset owner.
dimension_type	String	Dimension type. Options: <ul style="list-style-type: none"> • COMMON: common dimension • LOOKUP: code table dimension • HIERARCHIES: hierarchy dimension
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.

Parameter	Type	Description
code_table	CodeTableVO object	Reference lookup table, which is read-only.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
dw_id	String	Data connection ID.
reversed	Boolean	Indicates whether it is reverse.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
db_name	String	Database name.
tb_id	String	Data table ID. This parameter is read-only.
schema	String	Required by the DWS type.
table_type	String	Table type
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected

Parameter	Type	Description
tb_guid	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dimension_name	String	Associated dimension name, which is read-only.
attributes	Array of DimensionLogicTableAttributeVO objects	Field attribute.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
materialization	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
distribute	String	DISTRIBUTE BY [HASH(column)] REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
quality_id	String	Quality ID, which is a string
alias	String	Alias

Parameter	Type	Description
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
obs_location	String	Foreign Table Path
configs	String	Other Configurations
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	Long	Model ID
model	WorkspaceVO object	Model information

Table 7-956 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.

Parameter	Type	Description
description	String	Description.
create_by	String	Creator.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldVO objects	Code list attribute information.

Table 7-957 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string

Parameter	Type	Description
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-958 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Table 7-959 DimensionLogicTableAttributeVO

Parameter	Type	Description
id	String	Dimension table ID, which is a string
dimension_logic_table_id	String	ID of the dimension table.
ordinal	Integer	No.
dimension_attribute_id	String	Dimension attribute ID, which is a string
name_en	String	Field name, which is read-only.
name_ch	String	Service attribute. This parameter is read-only.
description	String	Description, which is read-only.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key. This parameter is read-only.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether the partition is a primary key partition. This parameter is read-only.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias

Parameter	Type	Description
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality

Table 7-960 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-961 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Table 7-962 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-963 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-964 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-965 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.

Parameter	Type	Description
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.

Parameter	Type	Description
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-966 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-967 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-968 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to view details about a dimension table by ID.

```
GET https://{endpoint}/v2/{project_id}/design/dimension-logic-tables/1222930979413499904
```

Example Responses

Status code: 200

This operation is successful, and the returned data is DimensionLogicTableVO details.

```
{
  "data": {
    "value": {
      "id": "1222930979413499904",
      "tb_name": "dim_test_czh_0328",
      "tb_logic_name": "test_czh_0328",
      "l1_id": "1194966710038474752",
      "l2_id": null,
      "l3_id": null,
      "create_by": "test_uesr",
      "description": "N/A",
      "dimension_id": "1222930977286987776",
      "owner": "afcaca",
      "dimension_type": "COMMON",
      "code_table_id": null,
      "code_table": null,
      "queue_name": "default",
      "dw_id": "8259af52bd294f98920ebce75a426391",
      "reversed": null,
      "partition_conf": null,
      "dirty_out_switch": false,
      "dirty_out_database": "",
      "dirty_out_prefix": "",
      "dirty_out_suffix": "",
      "db_name": "bi",
      "tb_id": null,
      "schema": "",
      "table_type": "MANAGED",
      "status": "PUBLISHED",
      "tb_guid": null,
      "tb_logic_guid": "712edcdd-3bba-4077-b182-4a1f17e5bcd8",
      "dimension_name": "test_czh_0328",
      "attributes": [ {
        "id": "1222930979442860032",
        "dimension_logic_table_id": "1222930979413499904",
        "ordinal": 1,
        "dimension_attribute_id": "1222930977370873856",
        "name_en": "dim_test_czh_0328_key",
        "name_ch": "test_czh_0328",
        "description": "",
        "data_type": "BIGINT",
        "domain_type": "NUMBER",
        "data_type_extend": null,
        "is_primary_key": true,
        "is_biz_primary": false,
        "is_partition_key": false,
        "not_null": false,
        "stand_row_id": null,
        "stand_row_name": null,
        "quality_infos": [ ],
        "alias": "",
        "self_defined_fields": [ {
```

```
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : ""
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : ""
  }
],
"secrecy_levels" : [ ]
}, {
  "id" : "1222930979442860033",
  "dimension_logic_table_id" : "1222930979413499904",
  "ordinal" : 2,
  "dimension_attribute_id" : "1222930977370873857",
  "name_en" : "aaa",
  "name_ch" : "aaa",
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : ""
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : ""
  }
],
"secrecy_levels" : [ ]
}, {
  "id" : "1222930979442860034",
  "dimension_logic_table_id" : "1222930979413499904",
  "ordinal" : 3,
  "dimension_attribute_id" : "1222930977370873858",
  "name_en" : "bbb",
  "name_ch" : "bbb",
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : null,
  "is_primary_key" : false,
  "is_biz_primary" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : ""
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
```

```
    "not_null" : false,
    "fd_value" : ""
  }],
  "secrecy_levels" : [ ]
}],
"dw_type" : "DWS",
"dw_name" : "dws",
"l1" : "test_czh_catalog",
"l2" : null,
"l3" : null,
"create_time" : "2024-03-28T15:31:06+08:00",
"update_time" : "2024-03-28T15:31:10+08:00",
"approval_info" : null,
"new_biz" : null,
"physical_table" : "CREATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "CREATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"materialization" : null,
"summary_status" : "SUMMARY_FAILED",
"distribute" : null,
"distribute_column" : null,
"obs_location" : null,
"quality_id" : null,
"alias" : "",
"configs" : "{}",
"self_defined_fields" : [ {
  "fd_name_ch" : "User-defined item 1",
  "fd_name_en" : "selfDefine1",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "User-defined item 2",
  "fd_name_en" : "selfDefine2",
  "not_null" : true,
  "fd_value" : "adada"
} ],
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowDimensionLogicTableByIdSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowDimensionLogicTableByIdRequest request = new ShowDimensionLogicTableByIdRequest();
        request.withId("{id}");
        try {
            ShowDimensionLogicTableByIdResponse response = client.showDimensionLogicTableById(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8
```

```
import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowDimensionLogicTableByIdRequest()
        request.id = "{id}"
        response = client.show_dimension_logic_table_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowDimensionLogicTableByIdRequest{}
```



```
request.Id = "{id}"
response, err := client.ShowDimensionLogicTableById(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is DimensionLogicTableVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.17 Fact Tables

7.17.1 Searching for a Fact Table

Function

Search for fact table information by Chinese and English names, creator, reviewer, status, and modification time.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/fact-logic-tables

Table 7-969 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-970 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
owner	No	String	Query by owner.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be approved • PUBLISHED: released • OFFLINE_DEVELOPING: to be approved • OFFLINE: offline • REJECT: rejected
sync_status	No	String	Defines the enumeration of the synchronization status. Options: <ul style="list-style-type: none"> • RUNNING: synchronizing • NO_NEED: not synchronized • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure

Parameter	Mandatory	Type	Description
sync_key	No	Array of strings	<p>Defines the enumeration of synchronization task types.</p> <p>Options:</p> <ul style="list-style-type: none"> ● BUSINESS_ASSET: synchronizes service assets. ● DATA_QUALITY: Create a quality job. ● TECHNICAL_ASSET: synchronizes technology assets. ● META_DATA_LINK: asset association ● PHYSICAL_TABLE: Create a table (production environment). ● DEV_PHYSICAL_TABLE: Create a table in the development environment. ● DLF_TASK: creates a data development job. ● MATERIALIZATION: Data is stored in the database (code table). ● PUBLISH_TO_DLM: publishes data service APIs. ● SUMMARY_STATUS: overall status
l3_id	No	String	ID of business object l3, which is a string
begin_time	No	String	<p>Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.</p>

Parameter	Mandatory	Type	Description
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
biz_catalog_id	No	String	ID of the service catalog to which the belongs.

Request Parameters

Table 7-971 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-972 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-973 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-974 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of FactLogicTableVO objects	FactLogicTableVO information.

Table 7-975 FactLogicTableVO

Parameter	Type	Description
id	String	Fact table ID, which is a string
tb_name	String	Specifies the name of the table.
tb_logic_name	String	Name of a logical entity.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
description	String	Description.
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
owner	String	Asset owner.
create_by	String	Creator.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
dw_id	String	Data connection ID.
db_name	String	Database name.
tb_id	String	Data table ID. This parameter is read-only.
dim_table_ids	Array of strings	ID of the associated dimension table.
reversed	Boolean	Indicates whether it is reverse.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
schema	String	Required by the DWS type.

Parameter	Type	Description
distribute	String	DISTRIBUTE BY [HASH(column)] REPLICATION]. Options: <ul style="list-style-type: none"> HASH: Hashes specified columns and distributes data to specified DNs through mapping. REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
table_type	String	Table type
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> DRAFT: draft PUBLISH_DEVELOPING: to be reviewed PUBLISHED: released OFFLINE_DEVELOPING: to be reviewed OFFLINE: offline REJECT: rejected
tb_guid	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .

Parameter	Type	Description
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
dimensions	Array of FactTableAttributeVO objects	Fact table dimension information, which is read-only.
attributes	Array of FactTableAttributeVO objects	Fact attribute information of the fact table, which is read-only.
mappings	Array of TableMappingVO objects	Table mapping information.
measures	Array of FactTableAttributeVO objects	Fact table measurement information, which is read-only.

Parameter	Type	Description
table_attributes	Array of FactTableAttributeVO objects	Indicates all attributes of a fact table.
configs	String	Other Configurations
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
quality_id	String	Quality ID, which is a string
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
obs_location	String	Foreign Table Path
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> • INVALID_TYPE: invalid environment • DEV_TYPE: development environment • PROD_TYPE: production environment • DEV_PROD_TYPE: development and production environment

Parameter	Type	Description
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
model_id	Long	Model ID
model	WorkspaceVO object	Model information

Table 7-976 FactTableAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
fact_logic_table_id	String	Fact table ID, which is a read-only string
ordinal	Integer	Sequence number.
dimension_id	String	Dimension ID, which is a string
dimension_attr_id	String	Dimension attribute ID, which is a string
role	String	Dimension role.
dimension	DimensionVO object	Indicates the dimension information corresponding to dimension_id. This parameter is read-only.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
is_foreign_key	Boolean	Indicates whether the key is a foreign key. This parameter is read-only.
secrecy_levels	Array of SecrecyLevelRecordVO objects	Confidentiality
description	String	Description.
data_type	String	Field type

Parameter	Type	Description
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
name_en	String	English name of the user.
name_ch	String	Chinese name.
not_null	Boolean	Indicates whether the value is empty.

Parameter	Type	Description
attribute_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.

Table 7-977 DimensionVO

Parameter	Type	Description
id	String	ID string (It is read-only for creation and mandatory for update.)
name_en	String	Dimension name in English
dimension_type	String	Dimension type (The dimension type can be changed from a common dimension to a hierarchical dimension during an update, and cannot be changed in other scenarios.) Enumerated values: <ul style="list-style-type: none">• COMMON: common dimension• LOOKUP: lookup table dimension• HIERARCHIES: hierarchical dimension
name_ch	String	Dimension name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
code_table	CodeTableVO object	Reference lookup table, which is read-only.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
attributes	Array of DimensionAttributeVO objects	Dimension attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
datasource	BizDatasourceRelationVO object	Data source information, which is mandatory for creation or update
owner	String	Asset owner, which is mandatory for creating or updating an asset
obs_location	String	Foreign Table Path
table_type	String	Table type
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
configs	String	Other Configurations
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	String	Model ID
model	WorkspaceVO object	Model information

Table 7-978 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.
create_by	String	Creator.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldV O objects	Code list attribute information.

Table 7-979 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.

Parameter	Type	Description
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-980 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Table 7-981 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.

Parameter	Type	Description
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-982 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-983 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.

Table 7-984 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-985 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-986 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-987 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none"> • LEFT: left outer join • RIGHT: right outer join • INNER: inner join • FULL: full connection
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-988 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-989 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-990 BizDatasourceRelationVO

Parameter	Type	Description
id	String	ID, which is a string
biz_id	String	Business object information, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
dw_id	String	Data connection ID.
dw_name	String	Data connection name, which is read-only.
db_name	String	Indicates the database name.

Parameter	Type	Description
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.

Table 7-991 SecrecyLevelRecordVO

Parameter	Type	Description
id	String	ID of the security level associated with the attribute. The ID is a string.
secrecyLevel_id	String	Security level ID, which is a string
secrecyLevel_name	String	Security level name.
uuid	String	Data security primary key.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
biz_id	String	Business object ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_by	String	Creator.
update_by	String	Updater.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-992 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-993 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-994 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-995 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-996 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.

Parameter	Type	Description
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-997 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-998** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-999** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain the fact table list based on search criteria.

```
GET https://{endpoint}/v2/{project_id}/design/fact-logic-tables?  
offset=1&limit=10&name=fact_test_czh_0305_003
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a FactLogicTableVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "id": "1214584210761940992",
        "tb_name": "fact_test_czh_0305_003",
        "tb_logic_name": "test_czh_0305_003",
        "l1_id": "1194966710038474752",
        "l2_id": null,
        "l3_id": null,
        "description": "N/A",
        "dw_name": null,
        "owner": "aaa",
        "create_by": "test_uesr",
        "queue_name": "default",
        "dw_id": "8259af52bd294f98920ebce75a426391",
        "db_name": "bi",
        "tb_id": "NativeTable-8259af52bd294f98920ebce75a426391-bi-fact_test_czh_0305_003",
        "dim_table_ids": null,
        "reversed": null,
        "partition_conf": null,
        "dirty_out_switch": false,
        "dirty_out_database": "",
        "dirty_out_prefix": "",
        "dirty_out_suffix": "",
        "schema": "",
        "distribute": null,
        "distribute_column": null,
        "obs_location": null,
        "table_type": "MANAGED",
        "status": "PUBLISHED",
        "tb_guid": null,
        "tb_logic_guid": "5417940a-0d1d-4fea-9b6f-65637da15112",
        "dw_type": "DWS",
        "l1": "test_czh_catalog",
        "l2": null,
        "l3": null,
        "create_time": "2024-03-05T14:44:02+08:00",
        "update_time": "2024-03-05T15:35:48+08:00",
        "approval_info": {
          "id": "1214597210327646208",
          "tenant_id": null,
          "name_ch": null,
          "name_en": null,
          "biz_id": "1214584210761940992",
          "biz_type": null,
          "biz_info": null,
          "biz_info_obj": null,
          "biz_version": 0,
          "biz_status": "PUBLISHED",
          "approval_status": "APPROVED",
          "approval_type": null,
          "submit_time": "2024-03-05T15:35:41+08:00",
          "create_by": null,
          "l1": null,
          "l2": null,
          "l3": null,
          "approval_time": "2024-03-05T15:35:41+08:00",
          "approver": "test_uesr",
          "email": null,
          "msg": "Fast Approval OK.",
          "directory_path": null
        },
        "new_biz": null,
        "dimensions": null,
      }
    ]
  }
}
```



```
"attributes" : null,
"mappings" : null,
"measures" : [ {
  "id" : "1214584210866798592",
  "fact_logic_table_id" : "1214584210761940992",
  "ordinal" : 1,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "name_en" : "aaa",
  "name_ch" : "aaa",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : null
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : null
  }
  ]
}, {
  "id" : "1214584210866798593",
  "fact_logic_table_id" : "1214584210761940992",
  "ordinal" : 2,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ {
    "id" : "187",
    "secrecyLevel_id" : "1199020797063208960",
    "secrecyLevel_name" : "Confidentiality",
    "uuid" : "8a9481ba8c202835018c237ae6540007",
    "slevel" : 5,
    "description" : "Promise me, don't say it to anyone.",
    "biz_id" : "1214584210866798593",
    "biz_type" : "FACT_LOGIC_TABLE",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-03-05T15:35:41+08:00",
    "update_time" : "2024-03-05T15:35:41+08:00"
  } ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "name_en" : "bbb",
  "name_ch" : "bbb",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
```

```
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "aa",
  "fd_name_en" : "aa",
  "not_null" : false,
  "fd_value" : null
}, {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : null
} ]
}, {
  "id" : "1214584210866798594",
  "fact_logic_table_id" : "1214584210761940992",
  "ordinal" : 3,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ {
    "id" : "186",
    "secrecyLevel_id" : "1199020797063208960",
    "secrecyLevel_name" : "Confidentiality",
    "uuid" : "8a9481ba8c202835018c237ae6540007",
    "slevel" : 5,
    "description" : "Promise me, don't say it to anyone.",
    "biz_id" : "1214584210866798594",
    "biz_type" : "FACT_LOGIC_TABLE",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-03-05T15:35:41+08:00",
    "update_time" : "2024-03-05T15:35:41+08:00"
  } ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "name_en" : "ccc",
  "name_ch" : "ccc",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : null
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : null
  } ]
} ],
"table_attributes" : [ {
  "id" : "1214584210866798592",
  "fact_logic_table_id" : "1214584210761940992",
  "ordinal" : 1,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
```

```
"is_primary_key" : false,
"is_partition_key" : false,
"is_foreign_key" : null,
"secrecy_levels" : [ {
  "id" : "188",
  "secrecyLevel_id" : "1199020797063208960",
  "secrecyLevel_name" : "Confidentiality",
  "uuid" : "8a9481ba8c202835018c237ae6540007",
  "slevel" : 5,
  "description" : "Promise me, don't say it to anyone.",
  "biz_id" : "1214584210866798592",
  "biz_type" : "FACT_LOGIC_TABLE",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-03-05T15:35:41+08:00",
  "update_time" : "2024-03-05T15:35:41+08:00"
} ],
"description" : "",
"data_type" : "BIGINT",
"domain_type" : "NUMBER",
"data_type_extend" : "",
"name_en" : "aaa",
"name_ch" : "aaa",
"not_null" : false,
"attribute_type" : "FACT_MEASURE",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "aa",
  "fd_name_en" : "aa",
  "not_null" : false,
  "fd_value" : null
}, {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : null
} ]
}, {
  "id" : "1214584210866798593",
  "fact_logic_table_id" : "1214584210761940992",
  "ordinal" : 2,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ {
    "id" : "187",
    "secrecyLevel_id" : "1199020797063208960",
    "secrecyLevel_name" : "Confidentiality",
    "uuid" : "8a9481ba8c202835018c237ae6540007",
    "slevel" : 5,
    "description" : "Promise me, don't say it to anyone.",
    "biz_id" : "1214584210866798593",
    "biz_type" : "FACT_LOGIC_TABLE",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-03-05T15:35:41+08:00",
    "update_time" : "2024-03-05T15:35:41+08:00"
  } ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "name_en" : "bbb",
```

```
"name_ch" : "bbb",
"not_null" : false,
"attribute_type" : "FACT_MEASURE",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "aa",
  "fd_name_en" : "aa",
  "not_null" : false,
  "fd_value" : null
}, {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : null
} ]
}, {
  "id" : "1214584210866798594",
  "fact_logic_table_id" : "1214584210761940992",
  "ordinal" : 3,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ {
    "id" : "186",
    "secrecyLevel_id" : "1199020797063208960",
    "secrecyLevel_name" : "Confidentiality",
    "uuid" : "8a9481ba8c202835018c237ae6540007",
    "slevel" : 5,
    "description" : "Promise me, don't say it to anyone.",
    "biz_id" : "1214584210866798594",
    "biz_type" : "FACT_LOGIC_TABLE",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-03-05T15:35:41+08:00",
    "update_time" : "2024-03-05T15:35:41+08:00"
  } ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "name_en" : "ccc",
  "name_ch" : "ccc",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : null
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : null
  } ]
} ],
"physical_table" : "UPDATE_SUCCESS",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
```

```
"business_asset" : "UPDATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"summary_status" : "SUMMARY_FAILED",
"quality_id" : null,
"alias" : "",
"configs" : "{}",
"self_defined_fields" : [ {
  "fd_name_ch" : "User-defined item 1",
  "fd_name_en" : "selfDefine1",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "User-defined item 2",
  "fd_name_en" : "selfDefine2",
  "not_null" : true,
  "fd_value" : "aaa"
} ],
"dev_version" : null,
"prod_version" : "1214597212252831744",
"dev_version_name" : null,
"prod_version_name" : "V1.1 [latest]",
"env_type" : "PROD_TYPE"
}]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
```

```
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListFactLogicTablesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListFactLogicTablesRequest request = new ListFactLogicTablesRequest();
        try {
            ListFactLogicTablesResponse response = client.listFactLogicTables(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
```

```
.build()

try:
    request = ListFactLogicTablesRequest()
    response = client.list_fact_logic_tables(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListFactLogicTablesRequest{}
    response, err := client.ListFactLogicTables(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a FactLogicTableVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.17.2 Deleting Fact Tables

Function

This API is used to delete fact tables with specified IDs.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/fact-logic-tables

Table 7-1000 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1001 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string

Parameter	Mandatory	Type	Description
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none">• PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-1002 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-1003 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-1004 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1005 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1006 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Delete fact tables.

```
DELETE https://{endpoint}/v2/{project_id}/design/fact-logic-tables
```

```
{
  "ids" : [ "1114492876374601728" ],
  "del_types" : "PHYSICAL_TABLE"
}
```

Example Responses

Status code: 200

The operation succeeds. The number of deleted fact tables is returned.

```
{
  "value" : 1
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Delete fact tables.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteDesignFactLogicTableSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteDesignFactLogicTableRequest request = new DeleteDesignFactLogicTableRequest();
        IdsParam body = new IdsParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1114492876374601728");
        body.withDelTypes(IdsParam.DelTypesEnum.fromValue("PHYSICAL_TABLE"));
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
```

```
        DeleteDesignFactLogicTableResponse response = client.deleteDesignFactLogicTable(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Delete fact tables.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteDesignFactLogicTableRequest()
        listIdsbody = [
            "1114492876374601728"
        ]
        request.body = IdsParam(
            del_types="PHYSICAL_TABLE",
            ids=listIdsbody
        )
        response = client.delete_design_fact_logic_table(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Delete fact tables.

```
package main
```

```
import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteDesignFactLogicTableRequest{}
    var listIdsbody = []string{
        "1114492876374601728",
    }
    delTypesIdsParam:= model.GetIdsParamDelTypesEnum().PHYSICAL_TABLE
    request.Body = &model.IdsParam{
        DelTypes: &delTypesIdsParam,
        Ids: listIdsbody,
    }
    response, err := client.DeleteDesignFactLogicTable(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds. The number of deleted fact tables is returned.
400	BadRequest
401	Unauthorized

Status Code	Description
403	Forbidden

7.17.3 Viewing Fact Table Details

Function

This API is used to view details about a fact table by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/fact-logic-tables/{id}

Table 7-1007 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-1008 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-1009 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-1010** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1011 data

Parameter	Type	Description
value	FactLogicTableVO object	value: unified outer data structure of the returned result.

Table 7-1012 FactLogicTableVO

Parameter	Type	Description
id	String	Fact table ID, which is a string
tb_name	String	Specifies the name of the table.
tb_logic_name	String	Name of a logical entity.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object GUID, which is a string
description	String	Description.
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
owner	String	Asset owner.
create_by	String	Creator.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
dw_id	String	Data connection ID.
db_name	String	Database name.
tb_id	String	Data table ID. This parameter is read-only.
dim_table_ids	Array of strings	ID of the associated dimension table.
reversed	Boolean	Indicates whether it is reverse.
partition_conf	String	Partition expression.

Parameter	Type	Description
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
schema	String	Required by the DWS type.
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
table_type	String	Table type
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
tb_guid	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
tb_logic_guid	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
dimensions	Array of FactTableAttribu teVO objects	Fact table dimension information, which is read-only.

Parameter	Type	Description
attributes	Array of FactTableAttributeVO objects	Fact attribute information of the fact table, which is read-only.
mappings	Array of TableMappingVO objects	Table mapping information.
measures	Array of FactTableAttributeVO objects	Fact table measurement information, which is read-only.
table_attributes	Array of FactTableAttributeVO objects	Indicates all attributes of a fact table.
configs	String	Other Configurations
physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
quality_id	String	Quality ID, which is a string
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
obs_location	String	Foreign Table Path
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string

Parameter	Type	Description
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
model_id	Long	Model ID
model	WorkspaceVO object	Model information

Table 7-1013 FactTableAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
fact_logic_table_id	String	Fact table ID, which is a read-only string
ordinal	Integer	Sequence number.
dimension_id	String	Dimension ID, which is a string
dimension_attr_id	String	Dimension attribute ID, which is a string
role	String	Dimension role.
dimension	DimensionVO object	Indicates the dimension information corresponding to dimension_id. This parameter is read-only.
is_primary_key	Boolean	Indicates whether a key is a primary key.

Parameter	Type	Description
is_partition_key	Boolean	Indicates whether the key is a partition key.
is_foreign_key	Boolean	Indicates whether the key is a foreign key. This parameter is read-only.
secrecy_levels	Array of SecrecyLevelRecordVO objects	Confidentiality
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
name_en	String	English name of the user.
name_ch	String	Chinese name.
not_null	Boolean	Indicates whether the value is empty.

Parameter	Type	Description
attribute_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.

Table 7-1014 DimensionVO

Parameter	Type	Description
id	String	ID string (It is read-only for creation and mandatory for update.)
name_en	String	Dimension name in English
dimension_type	String	Dimension type (The dimension type can be changed from a common dimension to a hierarchical dimension during an update, and cannot be changed in other scenarios.) Enumerated values: <ul style="list-style-type: none">• COMMON: common dimension• LOOKUP: lookup table dimension• HIERARCHIES: hierarchical dimension
name_ch	String	Dimension name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
code_table_id	String	Referenced lookup table ID (mandatory for creating or updating a lookup table dimension). The value is a string.
code_table	CodeTableVO object	Reference lookup table, which is read-only.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a string
hierarchies	Array of DimensionHierarchiesVO objects	Level attribute.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
attributes	Array of DimensionAttributeVO objects	Dimension attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
datasource	BizDatasourceRelationVO object	Data source information, which is mandatory for creation or update
owner	String	Asset owner, which is mandatory for creating or updating an asset
obs_location	String	Foreign Table Path
table_type	String	Table type
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
configs	String	Other Configurations
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment
model_id	String	Model ID
model	WorkspaceVO object	Model information

Table 7-1015 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.
create_by	String	Creator.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldV O objects	Code list attribute information.

Table 7-1016 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.

Parameter	Type	Description
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-1017 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Table 7-1018 DimensionHierarchiesVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Level name.

Parameter	Type	Description
attrs	Array of HierarchiesAttrVO objects	Attributes contained in a hierarchy.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-1019 HierarchiesAttrVO

Parameter	Type	Description
id	String	ID, which is a string
hierarchies_id	String	Level ID, which is a string
attr_id	String	Attribute ID, which is a string
level	Integer	Indicates the layer.
attr_name_en	String	Referenced attribute code.
attr_name_ch	String	Referenced attribute name, which is read-only.
detail_attr_ids	Array of strings	Details attribute ID, which is a string
detail_attr_name_ens	Array of strings	Details attribute in English.
detail_attr_name_chs	Array of strings	Details attribute in Chinese, which is read-only.
attr	DimensionAttributeVO object	Referenced attribute field, which is read-only.
detail_attrs	Array of DimensionAttributeVO objects	Details field, which is read-only.

Table 7-1020 DimensionAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
dimension_id	String	Dimension ID, which is a read-only string
code_table_field_id	String	Lookup table attribute ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
create_by	String	Creator.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_biz_primary	Boolean	Indicates whether it is a service primary key.
is_partition_key	Boolean	Indicates whether to partition.
ordinal	Integer	Sequence number.
not_null	Boolean	Indicates whether the value is empty.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.

Table 7-1021 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1022 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-1023 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-1024 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-1025 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-1026 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-1027 BizDatasourceRelationVO

Parameter	Type	Description
id	String	ID, which is a string
biz_id	String	Business object information, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_id	String	Data connection ID.
dw_name	String	Data connection name, which is read-only.
db_name	String	Indicates the database name.

Parameter	Type	Description
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.

Table 7-1028 SecrecyLevelRecordVO

Parameter	Type	Description
id	String	ID of the security level associated with the attribute. The ID is a string.
secrecyLevel_id	String	Security level ID, which is a string
secrecyLevel_name	String	Security level name.
uuid	String	Data security primary key.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
biz_id	String	Business object ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_by	String	Creator.
update_by	String	Updater.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1029 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1030 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-1031 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1032 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1033 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.

Parameter	Type	Description
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-1034 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1035** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1036** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to view details about a fact table by ID.

GET https://{endpoint}/v2/{project_id}/design/fact-logic-tables/1214584210761940992

Example Responses

Status code: 200

This operation succeeds, and the returned data is FactLogicTableVO details.

```
{
  "data": {
    "value": {
      "id": "1214584210761940992",
      "tb_name": "fact_test_czh_0305_003",
      "tb_logic_name": "test_czh_0305_003",
      "l1_id": "1194966710038474752",
      "l2_id": null,
      "l3_id": null,
      "description": "None",
      "dw_name": "dws",
      "owner": "aaa",
      "create_by": "test_uesr",
      "queue_name": "default",
      "dw_id": "8259af52bd294f98920ebce75a426391",
      "db_name": "bi",
      "tb_id": "NativeTable-8259af52bd294f98920ebce75a426391-bi-fact_test_czh_0305_003",
      "dim_table_ids": null,
      "reversed": null,
      "partition_conf": null,
      "dirty_out_switch": false,
      "dirty_out_database": "",
      "dirty_out_prefix": "",
      "dirty_out_suffix": "",
      "schema": "",
      "distribute": null,
      "distribute_column": null,
      "obs_location": null,
      "table_type": "MANAGED",
      "status": "PUBLISHED",
      "tb_guid": null,
      "tb_logic_guid": "5417940a-0d1d-4fea-9b6f-65637da15112",
      "dw_type": "DWS",
      "l1": "test_czh_catalog",
      "l2": null,
      "l3": null,
      "create_time": "2024-03-05T14:44:02+08:00",
      "update_time": "2024-03-05T15:35:48+08:00",
      "approval_info": {
        "id": "1214597210327646208",
        "tenant_id": null,
        "name_ch": null,
        "name_en": null,
        "biz_id": "1214584210761940992",
        "biz_type": null,
        "biz_info": null,
        "biz_info_obj": null,
        "biz_version": 0,
        "biz_status": "PUBLISHED",
        "approval_status": "APPROVED",
        "approval_type": null,
        "submit_time": "2024-03-05T15:35:41+08:00",
        "create_by": null,
        "l1": null,
        "l2": null,
        "l3": null,
        "approval_time": "2024-03-05T15:35:41+08:00",
        "approver": "test_uesr",
        "email": null,
        "msg": "Fast Approval OK.",
        "directory_path": null
      },
      "new_biz": null,
      "dimensions": null,
      "attributes": null,
      "mappings": [],
      "measures": [ {
        "id": "1214584210866798592",
        "fact_logic_table_id": "1214584210761940992",
```

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"ordinal" : 1,
"dimension_id" : null,
"role" : null,
"dimension" : null,
"is_primary_key" : false,
"is_partition_key" : false,
"is_foreign_key" : null,
"secrecy_levels" : [ {
  "id" : "188",
  "secrecyLevel_id" : "1199020797063208960",
  "secrecyLevel_name" : "Confidentiality",
  "uuid" : "8a9481ba8c202835018c237ae6540007",
  "slevel" : 5,
  "description" : "Promise me, don't say it to anyone.",
  "biz_id" : "1214584210866798592",
  "biz_type" : "FACT_LOGIC_TABLE",
  "create_by" : "test_uesr",
  "update_by" : "test_uesr",
  "create_time" : "2024-03-05T15:35:41+08:00",
  "update_time" : "2024-03-05T15:35:41+08:00"
} ],
"description" : "",
"data_type" : "BIGINT",
"domain_type" : "NUMBER",
"data_type_extend" : "",
"name_en" : "aaa",
"name_ch" : "aaa",
"not_null" : false,
"attribute_type" : "FACT_MEASURE",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : [ ],
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "aa",
  "fd_name_en" : "aa",
  "not_null" : false,
  "fd_value" : null
}, {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : null
} ]
}, {
  "id" : "1214584210866798593",
  "fact_logic_table_id" : "1214584210761940992",
  "ordinal" : 2,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ {
    "id" : "187",
    "secrecyLevel_id" : "1199020797063208960",
    "secrecyLevel_name" : "Confidentiality",
    "uuid" : "8a9481ba8c202835018c237ae6540007",
    "slevel" : 5,
    "description" : "Promise me, don't say it to anyone.",
    "biz_id" : "1214584210866798593",
    "biz_type" : "FACT_LOGIC_TABLE",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-03-05T15:35:41+08:00",
    "update_time" : "2024-03-05T15:35:41+08:00"
  } ],
  "description" : "",
```

```
"data_type" : "BIGINT",
"domain_type" : "NUMBER",
"data_type_extend" : "",
"name_en" : "bbb",
"name_ch" : "bbb",
"not_null" : false,
"attribute_type" : "FACT_MEASURE",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : [ ],
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "aa",
  "fd_name_en" : "aa",
  "not_null" : false,
  "fd_value" : null
}, {
  "fd_name_ch" : "bb",
  "fd_name_en" : "bb",
  "not_null" : false,
  "fd_value" : null
} ]
}, {
  "id" : "1214584210866798594",
  "fact_logic_table_id" : "1214584210761940992",
  "ordinal" : 3,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ {
    "id" : "186",
    "secrecyLevel_id" : "1199020797063208960",
    "secrecyLevel_name" : "Confidentiality",
    "uuid" : "8a9481ba8c202835018c237ae6540007",
    "slevel" : 5,
    "description" : "Promise me, don't say it to anyone.",
    "biz_id" : "1214584210866798594",
    "biz_type" : "FACT_LOGIC_TABLE",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-03-05T15:35:41+08:00",
    "update_time" : "2024-03-05T15:35:41+08:00"
  } ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "name_en" : "ccc",
  "name_ch" : "ccc",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : null
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : null
  } ]
}
```

```
    }],  
    "table_attributes" : [ {  
      "id" : "1214584210866798592",  
      "fact_logic_table_id" : "1214584210761940992",  
      "ordinal" : 1,  
      "dimension_id" : null,  
      "role" : null,  
      "dimension" : null,  
      "is_primary_key" : false,  
      "is_partition_key" : false,  
      "is_foreign_key" : null,  
      "secrecy_levels" : [ {  
        "id" : "188",  
        "secrecyLevel_id" : "1199020797063208960",  
        "secrecyLevel_name" : "Confidentiality",  
        "uuid" : "8a9481ba8c202835018c237ae6540007",  
        "slevel" : 5,  
        "description" : "Promise me, don't say it to anyone.",  
        "biz_id" : "1214584210866798592",  
        "biz_type" : "FACT_LOGIC_TABLE",  
        "create_by" : "test_uesr",  
        "update_by" : "test_uesr",  
        "create_time" : "2024-03-05T15:35:41+08:00",  
        "update_time" : "2024-03-05T15:35:41+08:00"  
      } ],  
      "description" : "",  
      "data_type" : "BIGINT",  
      "domain_type" : "NUMBER",  
      "data_type_extend" : "",  
      "name_en" : "aaa",  
      "name_ch" : "aaa",  
      "not_null" : false,  
      "attribute_type" : "FACT_MEASURE",  
      "stand_row_id" : null,  
      "stand_row_name" : null,  
      "quality_infos" : [ ],  
      "alias" : "",  
      "self_defined_fields" : [ {  
        "fd_name_ch" : "aa",  
        "fd_name_en" : "aa",  
        "not_null" : false,  
        "fd_value" : null  
      }, {  
        "fd_name_ch" : "bb",  
        "fd_name_en" : "bb",  
        "not_null" : false,  
        "fd_value" : null  
      } ]  
    }, {  
      "id" : "1214584210866798593",  
      "fact_logic_table_id" : "1214584210761940992",  
      "ordinal" : 2,  
      "dimension_id" : null,  
      "role" : null,  
      "dimension" : null,  
      "is_primary_key" : false,  
      "is_partition_key" : false,  
      "is_foreign_key" : null,  
      "secrecy_levels" : [ {  
        "id" : "187",  
        "secrecyLevel_id" : "1199020797063208960",  
        "secrecyLevel_name" : "Confidentiality",  
        "uuid" : "8a9481ba8c202835018c237ae6540007",  
        "slevel" : 5,  
        "description" : "Promise me, don't say it to anyone.",  
        "biz_id" : "1214584210866798593",  
        "biz_type" : "FACT_LOGIC_TABLE",  
        "create_by" : "test_uesr",  
        "update_by" : "test_uesr",
```

```
    "create_time" : "2024-03-05T15:35:41+08:00",
    "update_time" : "2024-03-05T15:35:41+08:00"
  } ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "name_en" : "bbb",
  "name_ch" : "bbb",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : null
  }, {
    "fd_name_ch" : "bb",
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : null
  } ]
}, {
  "id" : "1214584210866798594",
  "fact_logic_table_id" : "1214584210761940992",
  "ordinal" : 3,
  "dimension_id" : null,
  "role" : null,
  "dimension" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : null,
  "secrecy_levels" : [ {
    "id" : "186",
    "secrecyLevel_id" : "1199020797063208960",
    "secrecyLevel_name" : "Confidentiality",
    "uuid" : "8a9481ba8c202835018c237ae6540007",
    "slevel" : 5,
    "description" : "Promise me, don't say it to anyone.",
    "biz_id" : "1214584210866798594",
    "biz_type" : "FACT_LOGIC_TABLE",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-03-05T15:35:41+08:00",
    "update_time" : "2024-03-05T15:35:41+08:00"
  } ],
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "name_en" : "ccc",
  "name_ch" : "ccc",
  "not_null" : false,
  "attribute_type" : "FACT_MEASURE",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "aa",
    "fd_name_en" : "aa",
    "not_null" : false,
    "fd_value" : null
  }, {
    "fd_name_ch" : "bb",
```

```
    "fd_name_en" : "bb",
    "not_null" : false,
    "fd_value" : null
  }
}],
"physical_table" : "UPDATE_SUCCESS",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "UPDATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"summary_status" : "SUMMARY_FAILED",
"quality_id" : null,
"alias" : "",
"configs" : "{}",
"self_defined_fields" : [ {
  "fd_name_ch" : "User-defined item 1",
  "fd_name_en" : "selfDefine1",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "User-defined item 2",
  "fd_name_en" : "selfDefine2",
  "not_null" : true,
  "fd_value" : "aaa"
}],
"dev_version" : null,
"prod_version" : "1214597212252831744",
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE"
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowFactLogicTableByIdSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowFactLogicTableByIdRequest request = new ShowFactLogicTableByIdRequest();
        request.withId("{id}");
        try {
            ShowFactLogicTableByIdResponse response = client.showFactLogicTableById(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
```


example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ShowFactLogicTableByIdRequest()
    request.id = "{id}"
    response = client.show_fact_logic_table_by_id(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowFactLogicTableByIdRequest{}
    request.Id = "{id}"
    response, err := client.ShowFactLogicTableById(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is FactLogicTableVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.17.4 Viewing a Reverse Fact Table Task

Function

View the reverse fact table task.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/fact-logic-tables/database

Table 7-1037 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1038 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-1039** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1040 data

Parameter	Type	Description
value	BatchOperationVO object	value: unified outer data structure of the returned result.

Table 7-1041 BatchOperationVO

Parameter	Type	Description
id	String	Batch approval ID, which is a string
tenant_id	String	Project ID.
group_id	String	Group ID, which is a string
biz_name	String	Service name.
biz_id	String	Business ID, which is a string
operation_status	String	Operation result type enumeration. RUNNING(Running), SUCCESS(Operation succeeded), and FAILED(Operation failed). Options: <ul style="list-style-type: none">• RUNNING: The task is running.• SUCCESS: The operation is successful.• FAILED: The operation fails.
operation_type	String	Indicates the type.
biz_info	String	Service details.
create_by	String	Creator.
remark	String	Indicates the remark information.
total	Integer	Total number.
success	Integer	Number of successful operations.
failed	Integer	Indicates the number of failed operations.
rate	String	Indicates the current progress.
logs	String	Logs.
groups	Array of BatchOperationVO objects	Group information.

Status code: 400

Table 7-1042 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401

Table 7-1043 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 403

Table 7-1044 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Example Requests

View the reverse fact table task.

```
GET https://{endpoint}/v2/{project_id}/design/fact-logic-tables/database
```

Example Responses

Status code: 200

Success

```
{
  "data": {
    "value": {
      "id": null,
      "tenant_id": "0833a5737480d53b2f25c010dc1a7b88-workspace-eeb055e69c624311b6b9cfee89a4ec70",
      "group_id": "1231900573092171776",
      "biz_name": null,
      "biz_id": null,
      "operation_status": "RUNNING",
      "operation_type": "FACT_LOGIC_TABLE_REVERSE_DB",
      "biz_info": null,
      "create_by": "test_uesr",
      "remark": null,
      "total": 0,
      "success": 0,
      "failed": 0,
      "rate": null,
    }
  }
}
```

```
"logs" : null,  
"groups" : [ ]  
}  
}  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class CheckFactLogicTableStatusSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        CheckFactLogicTableStatusRequest request = new CheckFactLogicTableStatusRequest();  
        try {  
            CheckFactLogicTableStatusResponse response = client.checkFactLogicTableStatus(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8
```

```
import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CheckFactLogicTableStatusRequest()
        response = client.check_fact_logic_table_status(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CheckFactLogicTableStatusRequest{}
    response, err := client.CheckFactLogicTableStatus(request)
```

```
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden

7.18 Summary Tables

7.18.1 Searching for a Summary Table

Function

You can search for summary tables by Chinese and English names, creator, reviewer, status, and modification time. Fuzzy search is supported.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/aggregation-logic-tables

Table 7-1045 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1046 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
owner	No	String	Query by owner.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be approved• PUBLISHED: released• OFFLINE_DEVELOPING: to be approved• OFFLINE: offline• REJECT: rejected
sync_status	No	String	Defines the enumeration of the synchronization status. Options: <ul style="list-style-type: none">• RUNNING: synchronizing• NO_NEED: not synchronized• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure

Parameter	Mandatory	Type	Description
sync_key	No	Array of strings	<p>Defines the enumeration of synchronization task types.</p> <p>Options:</p> <ul style="list-style-type: none"> • BUSINESS_ASSET: synchronizes service assets. • DATA_QUALITY: Create a quality job. • TECHNICAL_ASSET: synchronizes technology assets. • META_DATA_LINK: asset association • PHYSICAL_TABLE: Create a table (production environment). • DEV_PHYSICAL_TABLE: Create a table in the development environment. • DLF_TASK: creates a data development job. • MATERIALIZATION: Data is stored in the database (code table). • PUBLISH_TO_DLM: publishes data service APIs. • SUMMARY_STATUS: overall status
l3_id	No	String	ID of business object l3, which is a string
begin_time	No	String	<p>Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.</p>

Parameter	Mandatory	Type	Description
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
biz_catalog_id	No	String	ID of the service catalog to which the belongs.
auto_generate	No	Boolean	Automatically Generated or Not

Request Parameters

Table 7-1047 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1048 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-1049 data

Parameter	Type	Description
value	value object	Returned data information.

Table 7-1050 value

Parameter	Type	Description
records	Array of AggregationLogicTableVO objects	Indicates the number of queried aggregation table value objects (AggregationLogicTableVO).
total	Integer	Total number of records that meet the search criteria.

Table 7-1051 AggregationLogicTableVO

Parameter	Type	Description
id	String	Unique system ID of the summary table, which is a string. This parameter is mandatory when you update an SDR table and is not required when you create an SDR table.
tb_name	String	Specifies the English name of the SDR table, which corresponds to the actual physical table name.
tb_logic_name	String	Chinese name of the summary table, which is used for display.
l1_id	String	Subject area group ID, which is a string. This parameter is read-only and does not need to be set during creation and update.
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	ID of the subject to which the summary table belongs, which is a string. This parameter is mandatory.
description	String	Description of the summary table.
owner	String	Asset owner of the summary table.
secret_type	String	Confidentiality type. Options: <ul style="list-style-type: none">• PUBLIC: public• SECRET: secret• CONFIDENTIAL: confidential• SUPER_SECRET: top secret
apply_bg	String	Applicable to bg.

Parameter	Type	Description
create_by	String	Creator of the summary table. This parameter is read-only and does not need to be set during creation and update.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
dw_id	String	ID of the data connection where the SDR table is located. The value is a 32-digit hexadecimal number.
db_name	String	Name of the database where the summary table is located.
tb_id	String	Specifies the ID of the table created by the summary table. It is an internal service ID and is read-only. You do not need to set this parameter when creating or updating a table.
schema	String	Specifies the name of the schema where the SDR table is located. This parameter is mandatory for DWS.
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Parameter	Type	Description
tb_guid	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
create_time	String	Specifies the creation time. This parameter is read-only and does not need to be set during creation and update.
update_time	String	Specifies the update time. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
dimension_group	String	Granularity ID.
group_name	String	Granularity name, which is read-only.
group_code	String	Granularity code, which is read-only.
time_period	AggregationLogi cTableAttribute- VO object	Time period attribute information of the summary table.
table_attributes	Array of AggregationLogi cTableAttribute- VO objects	Attribute information of the summary table. The type is determined based on attribute_type.
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
dlf_task	String	Synchronization status. Options: <ul style="list-style-type: none"> ● NO_NEED: not synchronized ● CREATE_SUCCESS: The creation is successful. ● CREATE_FAILED: Creation failed ● UPDATE_SUCCESS: The update is successful. ● UPDATE_FAILED: The update fails. ● SUMMARY_SUCCESS: overall success ● SUMMARY_FAILED: overall failure ● RUNNING: overall running ● OFFLINE: offline
publish_to_dlm	String	Synchronization status. Options: <ul style="list-style-type: none"> ● NO_NEED: not synchronized ● CREATE_SUCCESS: The creation is successful. ● CREATE_FAILED: Creation failed ● UPDATE_SUCCESS: The update is successful. ● UPDATE_FAILED: The update fails. ● SUMMARY_SUCCESS: overall success ● SUMMARY_FAILED: overall failure ● RUNNING: overall running ● OFFLINE: offline

Parameter	Type	Description
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
compression	String	DWS data compression level. The column compression level is no/low/middle/high, and the row compression level is no/yes. Options: <ul style="list-style-type: none"> • NO: no compression • YES: indicates that the file is compressed. • LOW: low-level compression • MIDDLE: medium-level compression • HIGH: high-level compression
obs_location	String	Path of the foreign table.
pre_combine_field	String	Version field.
table_type	String	Table type
dlf_task_id	String	ID of a DLF job.

Parameter	Type	Description
quality_id	String	Quality ID, which is a string
reversed	Boolean	Indicates whether the operation is reverse. This parameter is read-only.
table_version	Integer	If this parameter is set to 2, the summary table is generated and read-only.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
alias	String	Alias
configs	String	Other configurations.
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
api_id	String	API ID
sql	String	SQL statement bound to the SDR table.
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	Long	Model ID
model	WorkspaceVO object	Model information

Table 7-1052 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1053 AggregationLogicTableAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
aggregation_logic_table_id	String	ID of the summary table, which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name.
name_ch	String	Service attribute.

Parameter	Type	Description
attribute_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
not_null	Boolean	Indicates whether the value is empty.
description	String	Description.
data_type	String	Field type

Parameter	Type	Description
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
ref_id	String	ID of the object associated with the attribute.
ref_name_ch	String	Chinese name of the object associated with the attribute.
ref_name_en	String	English name of the object associated with the attribute.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias

Table 7-1054 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1055 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1056 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1057 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-1058 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.

Parameter	Type	Description
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-1059 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1060** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1061** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Query the first 10 SDR tables that are manually created or queried in fuzzy mode and whose Chinese name contains test_d.

```
GET https://{endpoint}/v2/{project_id}/design/aggregation-logic-tables?offset=1&limit=10&name=test_d&auto_generate=false
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is an AggregationLogicTableVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": "1",
      "records": [ {
        "id": "874242075850342400",
        "tb_name": "test_dws_rate_code",
        "tb_logic_name": "Summary of Charge Rate Codes",
        "l1_id": "873232498044411904",
        "l2_id": "873232716601204736",
        "l3_id": "873233519286059008",
        "description": "N/A",
        "owner": "abc",
        "create_by": "abc",
        "queue_name": "dgc_dws_test",
        "dw_id": "2c9080f07b03db8d017b198a4a20002f",
        "db_name": "demo_dm_db",
        "tb_id": "NativeTable-2c9080f07b03db8d017b198a4a20002f-demo_dm_db-dws_rate_code",
        "schema": "",
        "dw_name": null,
        "status": "PUBLISHED",
        "tb_guid": "a268644b-31b6-42e5-84ec-e35c31b541a5",
        "tb_logic_guid": "8948f715-3567-4684-9950-e3ed01e77121",
        "dw_type": "DWS",
        "l1": "Urban traffic",
        "l2": "Trip Record",
        "l3": "stroke_statistic",
        "create_time": "2021-08-09T10:45:54+08:00",
        "update_time": "2021-09-26T15:36:53+08:00",
        "approval_info": {
          "id": "874242076399796224",
          "tenant_id": null,
          "name_ch": null,
          "name_en": null,
          "biz_id": "874242075850342400",
          "biz_type": null,
          "biz_info": null,
          "biz_info_obj": null,
          "biz_version": 0,
          "biz_status": "PUBLISHED",
          "approval_status": "APPROVED",
          "approval_type": null,
          "submit_time": "2021-08-09T10:45:54+08:00",
          "create_by": null,
          "l1": null,
          "l2": null,
          "l3": null,
          "approval_time": "2021-08-09T10:45:53+08:00",
          "approver": "abc",
          "email": null,
          "msg": "Fast Approval OK.",
          "directory_path": null
        },
        "new_biz": null,
        "dimension_group": "873252544997130240",
        "group_name": "Rate Code",
        "group_code": null,
        "time_period": {
          "id": "874242075984560130",
          "aggregation_logic_table_id": "874242075850342400",
          "ordinal": 1,
          "name_en": "dtype",
          "name_ch": "Date",
          "attribute_type": "SUMMARY_TIME",
          "is_primary_key": false,
          "is_partition_key": true,

```

```
"not_null" : false,
"description" : null,
"data_type" : "TIMESTAMP",
"domain_type" : "DATETIME",
"data_type_extend" : null,
"ref_id" : null,
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : null
},
"table_attributes" : [ {
"id" : "874242075984560130",
"aggregation_logic_table_id" : "874242075850342400",
"ordinal" : 1,
"name_en" : "dtime",
"name_ch" : "Date",
"attribute_type" : "SUMMARY_TIME",
"is_primary_key" : false,
"is_partition_key" : true,
"not_null" : false,
"description" : null,
"data_type" : "TIMESTAMP",
"domain_type" : "DATETIME",
"data_type_extend" : null,
"ref_id" : null,
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : null
}, {
"id" : "874242075984560131",
"aggregation_logic_table_id" : "874242075850342400",
"ordinal" : 2,
"name_en" : "sum_total_amount",
"name_ch" : "Total fare (rate code)",
"attribute_type" : "DERIVATIVE_INDEX",
"is_primary_key" : false,
"is_partition_key" : false,
"not_null" : false,
"description" : "",
"data_type" : "DOUBLE",
"domain_type" : "NUMBER",
"data_type_extend" : null,
"ref_id" : "873265784540004352",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : null
}, {
"id" : "874242075984560132",
"aggregation_logic_table_id" : "874242075850342400",
"ordinal" : 3,
"name_en" : "dim_rate_code_rate_code_id",
"name_ch" : "Charging Rate Code_Charging Rate ID",
"attribute_type" : "SUMMARY_DIMENSION_ATTRIBUTE",
"is_primary_key" : false,
"is_partition_key" : false,
"not_null" : true,
"description" : "",
"data_type" : "BIGINT",
"domain_type" : "NUMBER",
"data_type_extend" : null,
"ref_id" : "873252544997130240.873258130849636352",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : null
}, {
```



```
"id" : "874242075984560133",
"aggregation_logic_table_id" : "874242075850342400",
"ordinal" : 4,
"name_en" : "dim_rate_code_rate_code_value",
"name_ch" : "Charging Rate Code_Charging Rate Description",
"attribute_type" : "SUMMARY_DIMENSION_ATTRIBUTE",
"is_primary_key" : false,
"is_partition_key" : false,
"not_null" : false,
"description" : "",
"data_type" : "STRING",
"domain_type" : "STRING",
"data_type_extend" : null,
"ref_id" : "873252544997130240.873258130849636353",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : null
}],
"physical_table" : "CREATE_SUCCESS",
"technical_asset" : "UPDATE_SUCCESS",
"business_asset" : "UPDATE_SUCCESS",
"meta_data_link" : "UPDATE_SUCCESS",
"data_quality" : "UPDATE_SUCCESS",
"dlf_task" : "CREATE_SUCCESS",
"publish_to_dlm" : "NO_NEED",
"summary_status" : "SUMMARY_SUCCESS",
"distribute" : null,
"distribute_column" : null,
"table_type" : "MANAGED",
"dlf_task_id" : "demo_dm_db_dws_rate_code_874242075850342400",
"quality_id" : "874242188178075649",
"reversed" : null,
"table_version" : 0,
"partition_conf" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"alias" : "",
"self_defined_fields" : [],
"api_id" : null
}
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
```

```
"error_msg": "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ListAggregationLogicTablesSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        ListAggregationLogicTablesRequest request = new ListAggregationLogicTablesRequest();  
        try {  
            ListAggregationLogicTablesResponse response = client.listAggregationLogicTables(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
```

```
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAggregationLogicTablesRequest()
        response = client.list_aggregation_logic_tables(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAggregationLogicTablesRequest{}
    response, err := client.ListAggregationLogicTables(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
```

```
    fmt.Println(err)
  }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is an AggregationLogicTableVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.18.2 Creating Summary Tables

Function

Manually create a summary table based on the input parameters.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/aggregation-logic-tables

Table 7-1062 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1063 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1064 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Unique system ID of the summary table, which is a string. This parameter is mandatory when you update an SDR table and is not required when you create an SDR table.

Parameter	Mandatory	Type	Description
tb_name	Yes	String	Specifies the English name of the SDR table, which corresponds to the actual physical table name.
tb_logic_name	Yes	String	Chinese name of the summary table, which is used for display.
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	ID of the subject to which the summary table belongs, which is a string. This parameter is mandatory.
description	No	String	Description of the summary table.
owner	Yes	String	Asset owner of the summary table.
secret_type	No	String	Confidentiality type. Options: <ul style="list-style-type: none">• PUBLIC: public• SECRET: secret• CONFIDENTIAL: confidential• SUPER_SECRET: top secret
apply_bg	No	String	Applicable to bg.
queue_name	No	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
dw_id	Yes	String	ID of the data connection where the SDR table is located. The value is a 32-digit hexadecimal number.
db_name	Yes	String	Name of the database where the summary table is located.

Parameter	Mandatory	Type	Description
schema	No	String	Specifies the name of the schema where the SDR table is located. This parameter is mandatory for DWS.
dw_name	No	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
tb_guid	No	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	No	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dw_type	Yes	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .

Parameter	Mandatory	Type	Description
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.
dimension_group	No	String	Granularity ID.
time_period	No	AggregationLogicTableAttributeVO object	Time period attribute information of the summary table.
table_attributes	No	Array of AggregationLogicTableAttributeVO objects	Attribute information of the summary table. The type is determined based on attribute_type.

Parameter	Mandatory	Type	Description
distribute	No	String	DISTRIBUTE BY [HASH(column)] REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	No	String	DISTRIBUTE BY HASH column.
compression	No	String	DWS data compression level. The column compression level is no/low/middle/high, and the row compression level is no/yes. Options: <ul style="list-style-type: none"> • NO: no compression • YES: indicates that the file is compressed. • LOW: low-level compression • MIDDLE: medium-level compression • HIGH: high-level compression
obs_location	No	String	Path of the foreign table.
pre_combine_field	No	String	Version field.
table_type	No	String	Table type
dlf_task_id	No	String	ID of a DLF job.
quality_id	No	String	Quality ID, which is a string
partition_conf	No	String	Partition expression.
dirty_out_switch	No	Boolean	Indicates whether to output abnormal data.
dirty_out_database	No	String	Abnormal data output library.

Parameter	Mandatory	Type	Description
dirty_out_prefix	No	String	Prefix of an exception table.
dirty_out_suffix	No	String	Suffix of an exception table.
alias	No	String	Alias
configs	No	String	Other configurations.
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.
api_id	No	String	API ID
sql	No	String	SQL statement bound to the SDR table.
model_id	No	Long	Model ID
model	No	WorkspaceVO object	Model information

Table 7-1065 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-1066 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected

Table 7-1067 AggregationLogicTableAttributeVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
aggregation_logic_table_id	No	String	ID of the summary table, which is a string
ordinal	No	Integer	Sequence number.
name_en	Yes	String	Field name.
name_ch	Yes	String	Service attribute.

Parameter	Mandatory	Type	Description
attribute_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
is_primary_key	Yes	Boolean	Indicates whether a key is a primary key.
is_partition_key	Yes	Boolean	Indicates whether the key is a partition key.

Parameter	Mandatory	Type	Description
not_null	No	Boolean	Indicates whether the value is empty.
description	No	String	Description.
data_type	Yes	String	Field type
data_type_extend	No	String	Extended field of the data type.
ref_id	No	String	ID of the object associated with the attribute.
stand_row_id	No	String	ID of the associated data standard, which is a string
alias	No	String	Alias

Table 7-1068 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Table 7-1069 WorkspaceVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name of the workspace.
description	No	String	Description.
is_physical	No	Boolean	Indicates whether a table is a physical table.
frequent	No	Boolean	Indicates whether it is commonly used.
top	No	Boolean	Hierarchical governance.

Parameter	Mandatory	Type	Description
level	No	String	Data governance layers. Options: <ul style="list-style-type: none">• SDI: source data layer• DWI: data integration layer• DWR: data reporting layer• DM: data mart layer
dw_type	No	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
type	Yes	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
biz_catalog_ids	No	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	No	Array of strings	Array of database names.
table_model_prefix	No	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Response Parameters

Status code: 200

Table 7-1070 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-1071 data

Parameter	Type	Description
value	AggregationLogicTableVO object	Returned data information.

Table 7-1072 AggregationLogicTableVO

Parameter	Type	Description
id	String	Unique system ID of the summary table, which is a string. This parameter is mandatory when you update an SDR table and is not required when you create an SDR table.
tb_name	String	Specifies the English name of the SDR table, which corresponds to the actual physical table name.
tb_logic_name	String	Chinese name of the summary table, which is used for display.
l1_id	String	Subject area group ID, which is a string. This parameter is read-only and does not need to be set during creation and update.
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	ID of the subject to which the summary table belongs, which is a string. This parameter is mandatory.
description	String	Description of the summary table.
owner	String	Asset owner of the summary table.

Parameter	Type	Description
secret_type	String	Confidentiality type. Options: <ul style="list-style-type: none">• PUBLIC: public• SECRET: secret• CONFIDENTIAL: confidential• SUPER_SECRET: top secret
apply_bg	String	Applicable to bg.
create_by	String	Creator of the summary table. This parameter is read-only and does not need to be set during creation and update.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
dw_id	String	ID of the data connection where the SDR table is located. The value is a 32-digit hexadecimal number.
db_name	String	Name of the database where the summary table is located.
tb_id	String	Specifies the ID of the table created by the summary table. It is an internal service ID and is read-only. You do not need to set this parameter when creating or updating a table.
schema	String	Specifies the name of the schema where the SDR table is located. This parameter is mandatory for DWS.
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
tb_guid	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
create_time	String	Specifies the creation time. This parameter is read-only and does not need to be set during creation and update.
update_time	String	Specifies the update time. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
dimension_group	String	Granularity ID.
group_name	String	Granularity name, which is read-only.
group_code	String	Granularity code, which is read-only.
time_period	AggregationLogicTableAttributeVO object	Time period attribute information of the summary table.
table_attributes	Array of AggregationLogicTableAttributeVO objects	Attribute information of the summary table. The type is determined based on attribute_type.
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
data_quality	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dlf_task	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
publish_to_dlm	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
distribute	String	<p>DISTRIBUTE BY [HASH(column)] REPLICATION].</p> <p>Options:</p> <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.

Parameter	Type	Description
compression	String	DWS data compression level. The column compression level is no/low/middle/high, and the row compression level is no/yes. Options: <ul style="list-style-type: none">• NO: no compression• YES: indicates that the file is compressed.• LOW: low-level compression• MIDDLE: medium-level compression• HIGH: high-level compression
obs_location	String	Path of the foreign table.
pre_combine_field	String	Version field.
table_type	String	Table type
dlf_task_id	String	ID of a DLF job.
quality_id	String	Quality ID, which is a string
reversed	Boolean	Indicates whether the operation is reverse. This parameter is read-only.
table_version	Integer	If this parameter is set to 2, the summary table is generated and read-only.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
alias	String	Alias
configs	String	Other configurations.
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
api_id	String	API ID
sql	String	SQL statement bound to the SDR table.

Parameter	Type	Description
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	Long	Model ID
model	WorkspaceVO object	Model information

Table 7-1073 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1074 AggregationLogicTableAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
aggregation_logic_table_id	String	ID of the summary table, which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name.
name_ch	String	Service attribute.

Parameter	Type	Description
attribute_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
not_null	Boolean	Indicates whether the value is empty.
description	String	Description.
data_type	String	Field type

Parameter	Type	Description
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
ref_id	String	ID of the object associated with the attribute.
ref_name_ch	String	Chinese name of the object associated with the attribute.
ref_name_en	String	English name of the object associated with the attribute.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias

Table 7-1075 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1076 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1077 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1078 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-1079 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.

Parameter	Type	Description
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-1080 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1081 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1082 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Manually create a summary table based on the input parameters.

```
POST https://{endpoint}/v2/{project_id}/design/aggregation-logic-tables
{
  "tb_name": "test_create_aggregation_logic_table",
  "tb_logic_name": "test_create_aggregation_logic_table",
  "alias": "",
  "dimension_group": "0",
  "secret_type": "PUBLIC",
  "apply_bg": ""
```

```
"l3_id" : "1105525024175058944",
"description" : "None",
"owner" : "autotest_tics",
"dw_type" : "DWS",
"dw_id" : "8259af52bd294f98920ebce75a426391",
"db_name" : "bi",
"schema" : "",
"queue_name" : "default",
"self_defined_fields" : [ {
  "fd_name_ch" : "aaa",
  "fd_name_en" : "aaa",
  "not_null" : false,
  "fd_value" : ""
} ],
"configs" : "{}",
"table_type" : "MANAGED",
"obs_location" : "",
"table_attributes" : [ {
  "id" : null,
  "name_ch" : "col_aa",
  "name_en" : "col_aa",
  "ordinal" : 1,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "description" : "",
  "data_type" : "BIGINT",
  "data_type_extend" : "",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "ref_id" : null,
  "ref_name_ch" : null,
  "secrecy_levels" : [ {
    "name" : "secrecy_level_name"
  } ]
} ],
"id" : 0,
"sql" : ""
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is AggregationLogicTableVO.

```
{
  "data" : {
    "value" : {
      "id" : "1227937502401331200",
      "tb_name" : "test_create_aggregation_logic_table",
      "tb_logic_name" : "test_create_aggregation_logic_table",
      "l1_id" : null,
      "l2_id" : null,
      "l3_id" : "1105525024175058944",
      "description" : "None",
      "owner" : "autotest_tics",
      "create_by" : "test_uesr",
      "queue_name" : "default",
      "dw_id" : "8259af52bd294f98920ebce75a426391",
      "db_name" : "bi",
      "tb_id" : null,
      "schema" : "",
      "dw_name" : null,
      "status" : "DRAFT",
      "tb_guid" : null,
      "tb_logic_guid" : null,
      "dw_type" : "DWS",
      "l1" : null,

```



```
"l2" : null,
"l3" : null,
"create_time" : "2024-04-11T11:05:14.548+08:00",
"update_time" : "2024-04-11T11:05:14.548+08:00",
"approval_info" : null,
"new_biz" : null,
"dimension_group" : "0",
"group_name" : null,
"group_code" : null,
"time_period" : null,
"table_attributes" : [ {
  "id" : null,
  "aggregation_logic_table_id" : null,
  "ordinal" : 1,
  "name_en" : "col_aa",
  "name_ch" : "col_aa",
  "attribute_type" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "secrecy_levels" : null,
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "ref_id" : null,
  "ref_name_ch" : null,
  "ref_name_en" : null,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : null
}, {
  "id" : null,
  "aggregation_logic_table_id" : null,
  "ordinal" : 2,
  "name_en" : "col_bb",
  "name_ch" : "col_bb",
  "attribute_type" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "secrecy_levels" : null,
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "ref_id" : null,
  "ref_name_ch" : null,
  "ref_name_en" : null,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : null
}],
"physical_table" : null,
"dev_physical_table" : null,
"technical_asset" : null,
"business_asset" : null,
"meta_data_link" : null,
"data_quality" : null,
"dlf_task" : null,
"publish_to_dlm" : null,
"summary_status" : null,
"distribute" : null,
"distribute_column" : null,
"compression" : null,
"obs_location" : null,
"pre_combine_field" : null,
```

```
"table_type": "MANAGED",
"dlf_task_id": null,
"quality_id": null,
"reversed": false,
"table_version": 0,
"partition_conf": null,
"dirty_out_switch": false,
"dirty_out_database": "",
"dirty_out_prefix": "",
"dirty_out_suffix": "",
"alias": "",
"configs": {},
"self_defined_fields": [ {
  "fd_name_ch": "aaa",
  "fd_name_en": "aaa",
  "not_null": false,
  "fd_value": ""
}],
"api_id": null,
"dev_version": null,
"prod_version": null,
"dev_version_name": null,
"prod_version_name": null,
"env_type": null,
"sql": ""
}
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Manually create a summary table based on the input parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
```

```
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateDesignAggregationLogicTableSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        CreateDesignAggregationLogicTableRequest request = new
        CreateDesignAggregationLogicTableRequest();
        AggregationLogicTableVO body = new AggregationLogicTableVO();
        List<SelfDefinedFieldVO> listbodySelfDefinedFields = new ArrayList<>();
        listbodySelfDefinedFields.add(
            new SelfDefinedFieldVO()
                .withFdNameCh("aaa")
                .withFdNameEn("aaa")
                .withNotNull(false)
                .withFdValue("")
        );
        List<SecrecyLevelVO> listTableAttributesSecrecyLevels = new ArrayList<>();
        listTableAttributesSecrecyLevels.add(
            new SecrecyLevelVO()
                .withName("secrecy_level_name")
        );
        List<AggregationLogicTableAttributeVO> listbodyTableAttributes = new ArrayList<>();
        listbodyTableAttributes.add(
            new AggregationLogicTableAttributeVO()
                .withOrdinal(1)
                .withNameEn("col_aa")
                .withNameCh("col_aa")
                .withIsPrimaryKey(false)
                .withIsPartitionKey(false)
                .withSecrecyLevels(listTableAttributesSecrecyLevels)
                .withNotNull(false)
                .withDescription("")
                .withDataType("BIGINT")
                .withDataTypeExtend("")
        );
        body.withSql("");
        body.withSelfDefinedFields(listbodySelfDefinedFields);
        body.withConfigs("{}");
        body.withAlias("");
        body.withTableType("MANAGED");
        body.withObsLocation("");
        body.withTableAttributes(listbodyTableAttributes);
    }
}
```

```
body.withDimensionGroup("0");
body.withDwType("DWS");
body.withSchema("");
body.withDbName("bi");
body.withDwld("8259af52bd294f98920ebce75a426391");
body.withQueueName("default");
body.withApplyBg(AggregationLogicTableVO.ApplyBgEnum.fromValue(""));
body.withSecretType(AggregationLogicTableVO.SecretTypeEnum.fromValue("PUBLIC"));
body.withOwner("autotest_tics");
body.withDescription("None");
body.withL3Id("1105525024175058944");
body.withTbLogicName("test_create_aggregation_logic_table");
body.withTbName("test_create_aggregation_logic_table");
body.withId("0");
request.withBody(body);
try {
    CreateDesignAggregationLogicTableResponse response =
client.createDesignAggregationLogicTable(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Manually create a summary table based on the input parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateDesignAggregationLogicTableRequest()
        listSelfDefinedFieldsbody = [
            SelfDefinedFieldVO(
                fd_name_ch="aaa",
                fd_name_en="aaa",
                not_null=False,
```

```
        fd_value=""
    )
]
listSecrecyLevelsTableAttributes = [
    SecrecyLevelVO(
        name="secrecy_level_name"
    )
]
listTableAttributesbody = [
    AggregationLogicTableAttributeVO(
        ordinal=1,
        name_en="col_aa",
        name_ch="col_aa",
        is_primary_key=False,
        is_partition_key=False,
        secrecy_levels=listSecrecyLevelsTableAttributes,
        not_null=False,
        description="",
        data_type="BIGINT",
        data_type_extend=""
    )
]
request.body = AggregationLogicTableVO(
    sql="",
    self_defined_fields=listSelfDefinedFieldsbody,
    configs="{}",
    alias="",
    table_type="MANAGED",
    obs_location="",
    table_attributes=listTableAttributesbody,
    dimension_group="0",
    dw_type="DWS",
    schema="",
    db_name="bi",
    dw_id="8259af52bd294f98920ebce75a426391",
    queue_name="default",
    apply_bg="",
    secret_type="PUBLIC",
    owner="autotest_tics",
    description="None",
    l3_id="1105525024175058944",
    tb_logic_name="test_create_aggregation_logic_table",
    tb_name="test_create_aggregation_logic_table",
    id="0"
)
response = client.create_design_aggregation_logic_table(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Manually create a summary table based on the input parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```

risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.

// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.CreateDesignAggregationLogicTableRequest{}
fdNameChSelfDefinedFields:= "aaa"
fdNameEnSelfDefinedFields:= "aaa"
notNullSelfDefinedFields:= false
fdValueSelfDefinedFields:= ""
var listSelfDefinedFieldsbody = []model.SelfDefinedFieldVo{
    {
        FdNameCh: &fdNameChSelfDefinedFields,
        FdNameEn: &fdNameEnSelfDefinedFields,
        NotNull: &notNullSelfDefinedFields,
        FdValue: &fdValueSelfDefinedFields,
    },
}
var listSecrecyLevelsTableAttributes = []model.SecrecyLevelVo{
    {
        Name: "secrecy_level_name",
    },
}
ordinalTableAttributes:= int32(1)
notNullTableAttributes:= false
descriptionTableAttributes:= ""
dataTypeExtendTableAttributes:= ""
var listTableAttributesbody = []model.AggregationLogicTableAttributeVo{
    {
        Ordinal: &ordinalTableAttributes,
        NameEn: "col_aa",
        NameCh: "col_aa",
        IsPrimaryKey: false,
        IsPartitionKey: false,
        SecrecyLevels: &listSecrecyLevelsTableAttributes,
        NotNull: &notNullTableAttributes,
        Description: &descriptionTableAttributes,
        DataType: "BIGINT",
        DataTypeExtend: &dataTypeExtendTableAttributes,
    },
}
sqlAggregationLogicTableVo:= ""
configsAggregationLogicTableVo:= "{}"
aliasAggregationLogicTableVo:= ""
tableTypeAggregationLogicTableVo:= "MANAGED"
obsLocationAggregationLogicTableVo:= ""
dimensionGroupAggregationLogicTableVo:= "0"
schemaAggregationLogicTableVo:= ""
queueNameAggregationLogicTableVo:= "default"
applyBgApplyBg:= model.GetApplyBgEnumApplyBgEnum().EMPTY
secretTypeSecretType:= model.GetSecretTypeEnumSecretTypeEnum().PUBLIC
descriptionAggregationLogicTableVo:= "None"
idAggregationLogicTableVo:= "0"
request.Body = &model.AggregationLogicTableVo{
```

```
Sql: &sqlAggregationLogicTableVo,  
SelfDefinedFields: &listSelfDefinedFieldsbody,  
Configs: &configsAggregationLogicTableVo,  
Alias: &aliasAggregationLogicTableVo,  
TableType: &tableTypeAggregationLogicTableVo,  
ObsLocation: &obsLocationAggregationLogicTableVo,  
TableAttributes: &listTableAttributesbody,  
DimensionGroup: &dimensionGroupAggregationLogicTableVo,  
DwType: "DWS",  
Schema: &schemaAggregationLogicTableVo,  
DbName: "bi",  
DwId: "8259af52bd294f98920ebce75a426391",  
QueueName: &queueNameAggregationLogicTableVo,  
ApplyBg: &applyBgApplyBg,  
SecretType: &secretTypeSecretType,  
Owner: "autotest_tics",  
Description: &descriptionAggregationLogicTableVo,  
L3Id: "1105525024175058944",  
TbLogicName: "test_create_aggregation_logic_table",  
TbName: "test_create_aggregation_logic_table",  
Id: &idAggregationLogicTableVo,  
}  
response, err := client.CreateDesignAggregationLogicTable(request)  
if err == nil {  
    fmt.Printf("%v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is AggregationLogicTableVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.18.3 Update Summary Table

Function

Update the summary table.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/aggregation-logic-tables

Table 7-1083 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1084 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1085 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Unique system ID of the summary table, which is a string. This parameter is mandatory when you update an SDR table and is not required when you create an SDR table.
tb_name	Yes	String	Specifies the English name of the SDR table, which corresponds to the actual physical table name.
tb_logic_name	Yes	String	Chinese name of the summary table, which is used for display.
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	Yes	String	ID of the subject to which the summary table belongs, which is a string. This parameter is mandatory.
description	No	String	Description of the summary table.
owner	Yes	String	Asset owner of the summary table.
secret_type	No	String	Confidentiality type. Options: <ul style="list-style-type: none">● PUBLIC: public● SECRET: secret● CONFIDENTIAL: confidential● SUPER_SECRET: top secret
apply_bg	No	String	Applicable to bg.
queue_name	No	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.

Parameter	Mandatory	Type	Description
dw_id	Yes	String	ID of the data connection where the SDR table is located. The value is a 32-digit hexadecimal number.
db_name	Yes	String	Name of the database where the summary table is located.
schema	No	String	Specifies the name of the schema where the SDR table is located. This parameter is mandatory for DWS.
dw_name	No	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
tb_guid	No	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	No	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
dw_type	Yes	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManageVO object	Service version management. This parameter is read-only.
dimension_group	No	String	Granularity ID.
time_period	No	AggregationLogicTableAttributeVO object	Time period attribute information of the summary table.
table_attributes	No	Array of AggregationLogicTableAttributeVO objects	Attribute information of the summary table. The type is determined based on attribute_type.

Parameter	Mandatory	Type	Description
distribute	No	String	DISTRIBUTE BY [HASH(column)] REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	No	String	DISTRIBUTE BY HASH column.
compression	No	String	DWS data compression level. The column compression level is no/low/middle/high, and the row compression level is no/yes. Options: <ul style="list-style-type: none"> • NO: no compression • YES: indicates that the file is compressed. • LOW: low-level compression • MIDDLE: medium-level compression • HIGH: high-level compression
obs_location	No	String	Path of the foreign table.
pre_combine_field	No	String	Version field.
table_type	No	String	Table type
dlf_task_id	No	String	ID of a DLF job.
quality_id	No	String	Quality ID, which is a string
partition_conf	No	String	Partition expression.
dirty_out_switch	No	Boolean	Indicates whether to output abnormal data.
dirty_out_database	No	String	Abnormal data output library.

Parameter	Mandatory	Type	Description
dirty_out_prefix	No	String	Prefix of an exception table.
dirty_out_suffix	No	String	Suffix of an exception table.
alias	No	String	Alias
configs	No	String	Other configurations.
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.
api_id	No	String	API ID
sql	No	String	SQL statement bound to the SDR table.
model_id	No	Long	Model ID
model	No	WorkspaceVO object	Model information

Table 7-1086 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-1087 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Table 7-1088 AggregationLogicTableAttributeVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
aggregation_logic_table_id	No	String	ID of the summary table, which is a string
ordinal	No	Integer	Sequence number.
name_en	Yes	String	Field name.
name_ch	Yes	String	Service attribute.

Parameter	Mandatory	Type	Description
attribute_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
is_primary_key	Yes	Boolean	Indicates whether a key is a primary key.
is_partition_key	Yes	Boolean	Indicates whether the key is a partition key.

Parameter	Mandatory	Type	Description
not_null	No	Boolean	Indicates whether the value is empty.
description	No	String	Description.
data_type	Yes	String	Field type
data_type_extend	No	String	Extended field of the data type.
ref_id	No	String	ID of the object associated with the attribute.
stand_row_id	No	String	ID of the associated data standard, which is a string
alias	No	String	Alias

Table 7-1089 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Table 7-1090 WorkspaceVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name of the workspace.
description	No	String	Description.
is_physical	No	Boolean	Indicates whether a table is a physical table.
frequent	No	Boolean	Indicates whether it is commonly used.
top	No	Boolean	Hierarchical governance.

Parameter	Mandatory	Type	Description
level	No	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	No	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
type	Yes	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	No	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	No	Array of strings	Array of database names.
table_model_prefix	No	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Response Parameters

Status code: 200

Table 7-1091 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 400

Table 7-1092 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1093 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1094 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API modifies summary table information based on input parameters.

```
PUT https://{endpoint}/v2/{project_id}/design/aggregation-logic-tables
```

```
{
  "tb_name": "test_create_aggregation_logic_table",
  "tb_logic_name": "test_create_aggregation_logic_table",
  "alias": "",
  "dimension_group": "0",
  "secret_type": "PUBLIC",
  "apply_bg": "",
  "l3_id": "1105525024175058944",
  "description": "None",
  "owner": "autotest_tics",
  "dw_type": "DWS",
  "dw_id": "8259af52bd294f98920ebce75a426391",
  "db_name": "bi",
  "schema": "",
  "queue_name": "default",
  "self_defined_fields": [ {
    "fd_name_ch": "aaa",
    "fd_name_en": "aaa",
    "not_null": false,
    "fd_value": ""
  } ],
  "configs": "{}",
  "table_type": "MANAGED",
  "obs_location": "",
  "table_attributes": [ {
    "id": "1227937502644600832",
    "name_ch": "col_aa",
    "name_en": "col_aa",
    "ordinal": 1,
    "is_primary_key": false,
    "is_partition_key": false,
    "not_null": false,
    "description": "",
    "data_type": "BIGINT",
    "data_type_extend": "",
    "stand_row_id": null,
    "stand_row_name": null,
    "ref_id": null,
    "ref_name_ch": null,
    "quality_infos": [ {
      "data_quality_id": "1227937502644600833"
    } ],
    "secrecy_levels": [ {
      "name": "secrecy_level_name"
    } ]
  } ],
  "id": "1227937502401331200",
  "sql": "",
  "dirty_out_switch": false,
  "dirty_out_database": "",
  "dirty_out_prefix": "",
  "dirty_out_suffix": "",
  "partition_conf": null
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is AggregationLogicTableVO.

```
{
  "data": {
```

```
"value": {
  "id": "1227937502401331200",
  "tb_name": "test_create_aggregation_logic_table",
  "tb_logic_name": "test_create_aggregation_logic_table",
  "l1_id": null,
  "l2_id": null,
  "l3_id": "1105525024175058944",
  "description": "None",
  "owner": "autotest_tics",
  "create_by": "test_uesr",
  "queue_name": "default",
  "dw_id": "8259af52bd294f98920ebce75a426391",
  "db_name": "bi",
  "tb_id": null,
  "schema": "",
  "dw_name": null,
  "status": "DRAFT",
  "tb_guid": null,
  "tb_logic_guid": null,
  "dw_type": "DWS",
  "l1": null,
  "l2": null,
  "l3": null,
  "create_time": "2024-04-11T11:05:15+08:00",
  "update_time": "2024-04-11T11:28:17.101+08:00",
  "approval_info": null,
  "new_biz": null,
  "dimension_group": "0",
  "group_name": null,
  "group_code": null,
  "time_period": null,
  "table_attributes": [ {
    "id": "1227937502644600832",
    "aggregation_logic_table_id": null,
    "ordinal": 1,
    "name_en": "col_aa",
    "name_ch": "col_aa",
    "attribute_type": null,
    "is_primary_key": false,
    "is_partition_key": false,
    "not_null": false,
    "secrecy_levels": null,
    "description": "",
    "data_type": "BIGINT",
    "domain_type": "NUMBER",
    "data_type_extend": "",
    "ref_id": null,
    "ref_name_ch": null,
    "ref_name_en": null,
    "stand_row_id": null,
    "stand_row_name": null,
    "quality_infos": [ ],
    "alias": null
  }, {
    "id": "1227937502644600833",
    "aggregation_logic_table_id": null,
    "ordinal": 2,
    "name_en": "col_bb",
    "name_ch": "col_bb",
    "attribute_type": null,
    "is_primary_key": false,
    "is_partition_key": false,
    "not_null": false,
    "secrecy_levels": null,
    "description": "",
    "data_type": "BIGINT",
    "domain_type": "NUMBER",
    "data_type_extend": "",
    "ref_id": null,
```

```
"ref_name_ch" : null,
"ref_name_en" : null,
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : [ ],
"alias" : null
}, {
  "id" : null,
  "aggregation_logic_table_id" : null,
  "ordinal" : 3,
  "name_en" : "col_cc",
  "name_ch" : "col_cc",
  "attribute_type" : null,
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "secrecy_levels" : null,
  "description" : "",
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "ref_id" : null,
  "ref_name_ch" : null,
  "ref_name_en" : null,
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : null
}],
"physical_table" : null,
"dev_physical_table" : null,
"technical_asset" : null,
"business_asset" : null,
"meta_data_link" : null,
"data_quality" : null,
"dfl_task" : null,
"publish_to_dlm" : null,
"summary_status" : null,
"distribute" : null,
"distribute_column" : null,
"compression" : null,
"obs_location" : null,
"pre_combine_field" : null,
"table_type" : "MANAGED",
"dfl_task_id" : null,
"quality_id" : null,
"reversed" : false,
"table_version" : 0,
"partition_conf" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"alias" : "",
"configs" : "{}",
"self_defined_fields" : [ {
  "fd_name_ch" : "aaa",
  "fd_name_en" : "aaa",
  "not_null" : false,
  "fd_value" : ""
} ],
"api_id" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : null,
"sql" : ""
}
```

```
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API modifies summary table information based on input parameters.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class UpdateDesignAggregationLogicTableSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)
```

```
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();

UpdateDesignAggregationLogicTableRequest request = new
UpdateDesignAggregationLogicTableRequest();
AggregationLogicTableVO body = new AggregationLogicTableVO();
List<SelfDefinedFieldVO> listbodySelfDefinedFields = new ArrayList<>();
listbodySelfDefinedFields.add(
    new SelfDefinedFieldVO()
        .withFdNameCh("aaa")
        .withFdNameEn("aaa")
        .withNotNull(false)
        .withFdValue(""));
);
List<QualityInfoVO> listTableAttributesQualityInfos = new ArrayList<>();
listTableAttributesQualityInfos.add(
    new QualityInfoVO()
        .withDataQualityId("1227937502644600833")
);
);
List<SecrecyLevelVO> listTableAttributesSecrecyLevels = new ArrayList<>();
listTableAttributesSecrecyLevels.add(
    new SecrecyLevelVO()
        .withName("secrecy_level_name")
);
);
List<AggregationLogicTableAttributeVO> listbodyTableAttributes = new ArrayList<>();
listbodyTableAttributes.add(
    new AggregationLogicTableAttributeVO()
        .withId("1227937502644600832")
        .withOrdinal(1)
        .withNameEn("col_aa")
        .withNameCh("col_aa")
        .withIsPrimaryKey(false)
        .withIsPartitionKey(false)
        .withSecrecyLevels(listTableAttributesSecrecyLevels)
        .withNotNull(false)
        .withDescription("")
        .withDataType("BIGINT")
        .withDataTypeExtend("")
        .withQualityInfos(listTableAttributesQualityInfos)
);
body.withSql("");
body.withSelfDefinedFields(listbodySelfDefinedFields);
body.withConfigs("{}");
body.withAlias("");
body.withDirtyOutSuffix("");
body.withDirtyOutPrefix("");
body.withDirtyOutDatabase("");
body.withDirtyOutSwitch(false);
body.withTableType("MANAGED");
body.withObsLocation("");
body.withTableAttributes(listbodyTableAttributes);
body.withDimensionGroup("0");
body.withDwType("DWS");
body.withSchema("");
body.withDbName("bi");
body.withDwid("8259af52bd294f98920ebce75a426391");
body.withQueueName("default");
body.withApplyBg(AggregationLogicTableVO.ApplyBgEnum.fromValue(""));
body.withSecretType(AggregationLogicTableVO.SecretTypeEnum.fromValue("PUBLIC"));
body.withOwner("autotest_tics");
body.withDescription("None");
body.withL3Id("1105525024175058944");
body.withTbLogicName("test_create_aggregation_logic_table");
body.withTbName("test_create_aggregation_logic_table");
body.withId("1227937502401331200");
request.withBody(body);
```

```
    try {
        UpdateDesignAggregationLogicTableResponse response =
client.updateDesignAggregationLogicTable(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

This API modifies summary table information based on input parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateDesignAggregationLogicTableRequest()
        listSelfDefinedFieldsbody = [
            SelfDefinedFieldVO(
                fd_name_ch="aaa",
                fd_name_en="aaa",
                not_null=False,
                fd_value=""
            )
        ]
        listQualityInfosTableAttributes = [
            QualityInfoVO(
                data_quality_id="1227937502644600833"
            )
        ]
        listSecrecyLevelsTableAttributes = [
            SecrecyLevelVO(
                name="secrecy_level_name"
            )
        ]
        listTableAttributesbody = [
            AggregationLogicTableAttributeVO(
```

```
        id="1227937502644600832",
        ordinal=1,
        name_en="col_aa",
        name_ch="col_aa",
        is_primary_key=False,
        is_partition_key=False,
        secrecy_levels=listSecrecyLevelsTableAttributes,
        not_null=False,
        description="",
        data_type="BIGINT",
        data_type_extend="",
        quality_infos=listQualityInfosTableAttributes
    )
]
request.body = AggregationLogicTableVO(
    sql="",
    self_defined_fields=listSelfDefinedFieldsbody,
    configs={},
    alias="",
    dirty_out_suffix="",
    dirty_out_prefix="",
    dirty_out_database="",
    dirty_out_switch=False,
    table_type="MANAGED",
    obs_location="",
    table_attributes=listTableAttributesbody,
    dimension_group="0",
    dw_type="DWS",
    schema="",
    db_name="bi",
    dw_id="8259af52bd294f98920ebce75a426391",
    queue_name="default",
    apply_bg="",
    secret_type="PUBLIC",
    owner="autotest_tics",
    description="None",
    l3_id="1105525024175058944",
    tb_logic_name="test_create_aggregation_logic_table",
    tb_name="test_create_aggregation_logic_table",
    id="1227937502401331200"
)
response = client.update_design_aggregation_logic_table(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

This API modifies summary table information based on input parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```



```
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.UpdateDesignAggregationLogicTableRequest{
    fdNameChSelfDefinedFields:= "aaa"
    fdNameEnSelfDefinedFields:= "aaa"
    notNullSelfDefinedFields:= false
    fdValueSelfDefinedFields:= ""
    var listSelfDefinedFieldsbody = []model.SelfDefinedFieldVo{
        {
            FdNameCh: &fdNameChSelfDefinedFields,
            FdNameEn: &fdNameEnSelfDefinedFields,
            NotNull: &notNullSelfDefinedFields,
            FdValue: &fdValueSelfDefinedFields,
        },
    }
    var listQualityInfosTableAttributes = []model.QualityInfoVo{
        {
            DataQualityId: "1227937502644600833",
        },
    }
    var listSecrecyLevelsTableAttributes = []model.SecrecyLevelVo{
        {
            Name: "secrecy_level_name",
        },
    }
    idTableAttributes:= "1227937502644600832"
    ordinalTableAttributes:= int32(1)
    notNullTableAttributes:= false
    descriptionTableAttributes:= ""
    dataTypeExtendTableAttributes:= ""
    var listTableAttributesbody = []model.AggregationLogicTableAttributeVo{
        {
            Id: &idTableAttributes,
            Ordinal: &ordinalTableAttributes,
            NameEn: "col_aa",
            NameCh: "col_aa",
            IsPrimaryKey: false,
            IsPartitionKey: false,
            SecrecyLevels: &listSecrecyLevelsTableAttributes,
            NotNull: &notNullTableAttributes,
            Description: &descriptionTableAttributes,
            DataType: "BIGINT",
            DataTypeExtend: &dataTypeExtendTableAttributes,
            QualityInfos: &listQualityInfosTableAttributes,
        },
    }
    sqlAggregationLogicTableVo:= ""
    configsAggregationLogicTableVo:= "{}"
    aliasAggregationLogicTableVo:= ""
    dirtyOutSuffixAggregationLogicTableVo:= ""
    dirtyOutPrefixAggregationLogicTableVo:= ""
    dirtyOutDatabaseAggregationLogicTableVo:= ""
    dirtyOutSwitchAggregationLogicTableVo:= false
    tableTypeAggregationLogicTableVo:= "MANAGED"
    obsLocationAggregationLogicTableVo:= ""
```

```

dimensionGroupAggregationLogicTableVo:= "0"
schemaAggregationLogicTableVo:= ""
queueNameAggregationLogicTableVo:= "default"
applyBgApplyBg:= model.GetApplyBgEnumApplyBgEnum().EMPTY
secretTypeSecretType:= model.GetSecretTypeEnumSecretTypeEnum().PUBLIC
descriptionAggregationLogicTableVo:= "None"
idAggregationLogicTableVo:= "1227937502401331200"
request.Body = &model.AggregationLogicTableVo{
    Sql: &sqlAggregationLogicTableVo,
    SelfDefinedFields: &listSelfDefinedFieldsbody,
    Configs: &configsAggregationLogicTableVo,
    Alias: &aliasAggregationLogicTableVo,
    DirtyOutSuffix: &dirtyOutSuffixAggregationLogicTableVo,
    DirtyOutPrefix: &dirtyOutPrefixAggregationLogicTableVo,
    DirtyOutDatabase: &dirtyOutDatabaseAggregationLogicTableVo,
    DirtyOutSwitch: &dirtyOutSwitchAggregationLogicTableVo,
    TableType: &tableTypeAggregationLogicTableVo,
    ObsLocation: &obsLocationAggregationLogicTableVo,
    TableAttributes: &listTableAttributesbody,
    DimensionGroup: &dimensionGroupAggregationLogicTableVo,
    DwType: "DWS",
    Schema: &schemaAggregationLogicTableVo,
    DbName: "bi",
    DwId: "8259af52bd294f98920ebce75a426391",
    QueueName: &queueNameAggregationLogicTableVo,
    ApplyBg: &applyBgApplyBg,
    SecretType: &secretTypeSecretType,
    Owner: "autotest_tics",
    Description: &descriptionAggregationLogicTableVo,
    L3Id: "1105525024175058944",
    TbLogicName: "test_create_aggregation_logic_table",
    TbName: "test_create_aggregation_logic_table",
    Id: &idAggregationLogicTableVo,
}
response, err := client.UpdateDesignAggregationLogicTable(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}

```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is AggregationLogicTableVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.18.4 Deleting Summary Tables

Function

You can delete summary tables in batches. Only tables in the Draft, Offline, or Rejected state can be deleted.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/aggregation-logic-tables

Table 7-1095 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1096 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1097 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> • PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-1098 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-1099 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400**Table 7-1100** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1101** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1102 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to delete a summary table based on the input parameter.

```
DELETE https://{endpoint}/v2/{project_id}/design/aggregation-logic-tables
{
  "ids": [ "1227937502401331200" ],
  "del_types": "PHYSICAL_TABLE"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of deleted data records.

```
{
  "data": {
    "value": 1
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API is used to delete a summary table based on the input parameter.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteDesignAggregationLogicTableSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        DeleteDesignAggregationLogicTableRequest request = new
        DeleteDesignAggregationLogicTableRequest();
        IdsParam body = new IdsParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1227937502401331200");
        body.withDelTypes(IdsParam.DelTypeEnum.fromValue("PHYSICAL_TABLE"));
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
            DeleteDesignAggregationLogicTableResponse response =
            client.deleteDesignAggregationLogicTable(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrMsg());
        }
    }
}
```

Python

This API is used to delete a summary table based on the input parameter.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteDesignAggregationLogicTableRequest()
        listIdsbody = [
            "1227937502401331200"
        ]
        request.body = IdsParam(
            del_types="PHYSICAL_TABLE",
            ids=listIdsbody
        )
        response = client.delete_design_aggregation_logic_table(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

This API is used to delete a summary table based on the input parameter.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
```



```
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.DeleteDesignAggregationLogicTableRequest{
var listIdsbody = []string{
    "1227937502401331200",
}
delTypesIdsParam:= model.GetIdsParamDelTypesEnum().PHYSICAL_TABLE
request.Body = &model.IdsParam{
    DelTypes: &delTypesIdsParam,
    Ids: listIdsbody,
}
response, err := client.DeleteDesignAggregationLogicTable(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.18.5 Viewing SDR Table Details

Function

This API is used to view details about an SDR table by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/aggregation-logic-tables/{id}

Table 7-1103 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-1104 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-1105 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1106 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-1107 data

Parameter	Type	Description
value	AggregationLogicTableVO object	Returned data information.

Table 7-1108 AggregationLogicTableVO

Parameter	Type	Description
id	String	Unique system ID of the summary table, which is a string. This parameter is mandatory when you update an SDR table and is not required when you create an SDR table.
tb_name	String	Specifies the English name of the SDR table, which corresponds to the actual physical table name.
tb_logic_name	String	Chinese name of the summary table, which is used for display.

Parameter	Type	Description
l1_id	String	Subject area group ID, which is a string. This parameter is read-only and does not need to be set during creation and update.
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	ID of the subject to which the summary table belongs, which is a string. This parameter is mandatory.
description	String	Description of the summary table.
owner	String	Asset owner of the summary table.
secret_type	String	Confidentiality type. Options: <ul style="list-style-type: none"> • PUBLIC: public • SECRET: secret • CONFIDENTIAL: confidential • SUPER_SECRET: top secret
apply_bg	String	Applicable to bg.
create_by	String	Creator of the summary table. This parameter is read-only and does not need to be set during creation and update.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
dw_id	String	ID of the data connection where the SDR table is located. The value is a 32-digit hexadecimal number.
db_name	String	Name of the database where the summary table is located.
tb_id	String	Specifies the ID of the table created by the summary table. It is an internal service ID and is read-only. You do not need to set this parameter when creating or updating a table.
schema	String	Specifies the name of the schema where the SDR table is located. This parameter is mandatory for DWS.

Parameter	Type	Description
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
tb_guid	String	GUID of the created data catalog technology asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
tb_logic_guid	String	GUID of the created data catalog service asset after the table is released. This parameter is read-only and does not need to be set during creation and update.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
create_time	String	Specifies the creation time. This parameter is read-only and does not need to be set during creation and update.
update_time	String	Specifies the update time. This parameter is read-only and does not need to be set during creation and update.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
dimension_group	String	Granularity ID.
group_name	String	Granularity name, which is read-only.
group_code	String	Granularity code, which is read-only.
time_period	AggregationLogisticTableAttributeVO object	Time period attribute information of the summary table.
table_attributes	Array of AggregationLogisticTableAttributeVO objects	Attribute information of the summary table. The type is determined based on attribute_type.

Parameter	Type	Description
physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
technical_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
data_quality	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
dlf_task	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
publish_to_dlm	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
compression	String	DWS data compression level. The column compression level is no/low/middle/high, and the row compression level is no/yes. Options: <ul style="list-style-type: none"> • NO: no compression • YES: indicates that the file is compressed. • LOW: low-level compression • MIDDLE: medium-level compression • HIGH: high-level compression
obs_location	String	Path of the foreign table.
pre_combine_field	String	Version field.
table_type	String	Table type
dlf_task_id	String	ID of a DLF job.

Parameter	Type	Description
quality_id	String	Quality ID, which is a string
reversed	Boolean	Indicates whether the operation is reverse. This parameter is read-only.
table_version	Integer	If this parameter is set to 2, the summary table is generated and read-only.
partition_conf	String	Partition expression.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
alias	String	Alias
configs	String	Other configurations.
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
api_id	String	API ID
sql	String	SQL statement bound to the SDR table.
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none">• INVALID_TYPE: invalid environment• DEV_TYPE: development environment• PROD_TYPE: production environment• DEV_PROD_TYPE: development and production environment
model_id	Long	Model ID
model	WorkspaceVO object	Model information

Table 7-1109 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1110 AggregationLogicTableAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
aggregation_logic_table_id	String	ID of the summary table, which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name.
name_ch	String	Service attribute.

Parameter	Type	Description
attribute_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
not_null	Boolean	Indicates whether the value is empty.
description	String	Description.
data_type	String	Field type

Parameter	Type	Description
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
ref_id	String	ID of the object associated with the attribute.
ref_name_ch	String	Chinese name of the object associated with the attribute.
ref_name_en	String	English name of the object associated with the attribute.
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias

Table 7-1111 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1112 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1113 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1114 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-1115 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.

Parameter	Type	Description
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-1116 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1117 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1118 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to view details about an SDR table by ID.

GET https://{endpoint}/v2/{project_id}/design/aggregation-logic-tables/1209135365252866070

Example Responses

Status code: 200

This operation succeeds, and the returned data is AggregationLogicTableVO details.

```
{
  "data": {
    "value": {
      "id": "1209135365252866070",
      "tb_name": "dws_dim_ssww",
      "tb_logic_name": "yaqiang",
      "l1_id": "1180536695448350720",
      "l2_id": null,
      "l3_id": null,
      "description": "Auto converge table.\nDerivative metrics: 1\n\nDimension Group: yaqiang/dim_ssww",
      "owner": "dgc_user",
      "create_by": "test_uesr",
      "queue_name": "default",
      "dw_id": "8259af52bd294f98920ebce75a426391",
      "db_name": "default",
      "tb_id": null,
      "schema": "",
      "dw_name": "dws",
      "status": "PUBLISHED",
      "tb_guid": "1bc46477-6cf8-42c5-8e49-cabe9e7e50c8",
      "tb_logic_guid": "c27a4a66-2bb6-4c65-b943-87594d396432",
      "dw_type": "DWS",
      "l1": "owner_test",
      "l2": null,
      "l3": null,
      "create_time": "2024-02-19T13:52:16+08:00",
      "update_time": "2024-04-19T14:21:49+08:00",
      "approval_info": {
        "id": "1230885989459886080",
        "tenant_id": null,
        "name_ch": null,
        "name_en": null,
        "biz_id": "1209135365252866070",
        "biz_type": null,
        "biz_info": null,
        "biz_info_obj": null,
        "biz_version": 0,
        "biz_status": "PUBLISHED",
        "approval_status": "APPROVED",
        "approval_type": null,
        "submit_time": "2024-04-19T14:21:29+08:00",
        "create_by": null,
        "l1": null,
        "l2": null,
        "l3": null,
        "approval_time": "2024-04-19T14:21:28+08:00",
        "approver": "test_uesr",
        "email": null,
        "msg": "Fast Approval OK.",
        "directory_path": null
      },
      "new_biz": null,
      "dimension_group": "0",
      "group_name": null,
      "group_code": null,
      "time_period": null,
      "table_attributes": [ {
        "id": "1209135365252866069",
        "aggregation_logic_table_id": "1209135365252866070",
        "ordinal": 1,
        "name_en": "dws_atmoic",
        "name_ch": "DWS atomic metric (DWS.hierarchies_1)",
        "attribute_type": "DERIVATIVE_INDEX",
        "is_primary_key": false,
        "is_partition_key": false,
        "not_null": false,
      }
    ]
  }
}
```

```
"secrecy_levels" : [ ],
"description" : null,
"data_type" : "STRING",
"domain_type" : "STRING",
"data_type_extend" : "",
"ref_id" : "1188156778513338368",
"ref_name_ch" : "DWS atomic metric (dimension DWS.hierarchies_1)",
"ref_name_en" : "dws_atmoic",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : [ ],
"alias" : null
}, {
  "id" : "1209135366414688256",
  "aggregation_logic_table_id" : "1209135365252866070",
  "ordinal" : 2,
  "name_en" : "dim_LI_dim_key",
  "name_ch" : "Dimension DWS_Dimension DWS",
  "attribute_type" : "SUMMARY_DIMENSION_ATTRIBUTE",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "secrecy_levels" : [ ],
  "description" : null,
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "ref_id" : "1113507850438758400#1154065454386561024.1114569975517106176",
  "ref_name_ch" : "Dimension DWS.Dimension DWS",
  "ref_name_en" : "dim_LI.dim_key",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : null
}, {
  "id" : "1209135366414688257",
  "aggregation_logic_table_id" : "1209135365252866070",
  "ordinal" : 3,
  "name_en" : "dim_LI_li",
  "name_ch" : "Dimension DWS_li",
  "attribute_type" : "SUMMARY_DIMENSION_ATTRIBUTE",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : true,
  "secrecy_levels" : [ ],
  "description" : null,
  "data_type" : "BIGINT",
  "domain_type" : "NUMBER",
  "data_type_extend" : "",
  "ref_id" : "1113507850438758400#1154065454386561024.1114569975517106177",
  "ref_name_ch" : "Dimension DWS.li",
  "ref_name_en" : "dim_LI.li",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : null
}, {
  "id" : "1230885274481991680",
  "aggregation_logic_table_id" : "1209135365252866070",
  "ordinal" : 4,
  "name_en" : "order_count",
  "name_ch" : "Number of Orders",
  "attribute_type" : "DERIVATIVE_INDEX",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "STRING",
```

```
"domain_type" : "STRING",
"data_type_extend" : "",
"ref_id" : "1223668870544605184",
"ref_name_ch" : "Number of Orders",
"ref_name_en" : "order_count",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : [ ],
"alias" : null
}, {
  "id" : "1230885756508184576",
  "aggregation_logic_table_id" : "1209135365252866070",
  "ordinal" : 5,
  "name_en" : "xxx7",
  "name_ch" : "xxx2",
  "attribute_type" : "DERIVED_METRIC",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "ref_id" : "1169727308433653760",
  "ref_name_ch" : "xxx2",
  "ref_name_en" : "xxx7",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : null
}, {
  "id" : "1230885835012972544",
  "aggregation_logic_table_id" : "1209135365252866070",
  "ordinal" : 6,
  "name_en" : "cdm_mysql_string_auto_col_char",
  "name_ch" : "cdm_mysql_string_auto_col_char",
  "attribute_type" : "SUMMARY_DIMENSION_ATTRIBUTE",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "ref_id" : "raw#cdm_mysql_string_auto.col_char",
  "ref_name_ch" : "cdm_mysql_string_auto.col_char",
  "ref_name_en" : "cdm_mysql_string_auto.col_char",
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : null
}, {
  "id" : "1230885835012972545",
  "aggregation_logic_table_id" : "1209135365252866070",
  "ordinal" : 7,
  "name_en" : "cdm_mysql_string_auto_col_varchar",
  "name_ch" : "cdm_mysql_string_auto_col_varchar",
  "attribute_type" : "SUMMARY_DIMENSION_ATTRIBUTE",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "not_null" : false,
  "secrecy_levels" : [ ],
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "ref_id" : "raw#cdm_mysql_string_auto.col_varchar",
```



```
"ref_name_ch" : "cdm_mysql_string_auto.col_varchar",
"ref_name_en" : "cdm_mysql_string_auto.col_varchar",
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : [],
"alias" : null
}],
"physical_table" : "NO_NEED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_SUCCESS",
"business_asset" : "CREATE_SUCCESS",
"meta_data_link" : "UPDATE_SUCCESS",
"data_quality" : "UPDATE_SUCCESS",
"dlf_task" : "UPDATE_SUCCESS",
"publish_to_dlm" : "CREATE_FAILED",
"summary_status" : "SUMMARY_FAILED",
"distribute" : null,
"distribute_column" : null,
"compression" : null,
"obs_location" : null,
"pre_combine_field" : null,
"table_type" : "MANAGED",
"dlf_task_id" : "default_dws_dim_ssw_1209135365252866070",
"quality_id" : "1230886041247125505",
"reversed" : null,
"table_version" : 0,
"partition_conf" : null,
"dirty_out_switch" : true,
"dirty_out_database" : "bi",
"dirty_out_prefix" : "dd1",
"dirty_out_suffix" : "dd2",
"alias" : null,
"configs" : "{}",
"self_defined_fields" : [ {
  "fd_name_ch" : "aaa",
  "fd_name_en" : "aaa",
  "not_null" : false,
  "fd_value" : "aaa"
}],
"api_id" : null,
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE",
"sql" : ""
}
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowAggregationLogicTableByIdSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowAggregationLogicTableByIdRequest request = new ShowAggregationLogicTableByIdRequest();
        request.withId("{id}");
        try {
            ShowAggregationLogicTableByIdResponse response =
client.showAggregationLogicTableById(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAggregationLogicTableByIdRequest()
        request.id = "{id}"
        response = client.show_aggregation_logic_table_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
```

```
WithCredential(auth).
Build()

request := &model.ShowAggregationLogicTableByIdRequest{}
request.Id = "{id}"
response, err := client.ShowAggregationLogicTableById(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is AggregationLogicTableVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.19 Business Metrics

7.19.1 Querying Service Indicator Information

Function

Search for service indicator information by name, creator, and modification time.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/biz-metrics

Table 7-1119 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1120 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
owner	No	String	Query by owner.
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be approved • PUBLISHED: released • OFFLINE_DEVELOPING: to be approved • OFFLINE: offline • REJECT: rejected
sync_status	No	String	Defines the enumeration of the synchronization status. Options: <ul style="list-style-type: none"> • RUNNING: synchronizing • NO_NEED: not synchronized • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure

Parameter	Mandatory	Type	Description
sync_key	No	Array of strings	<p>Defines the enumeration of synchronization task types.</p> <p>Options:</p> <ul style="list-style-type: none"> • BUSINESS_ASSET: synchronizes service assets. • DATA_QUALITY: Create a quality job. • TECHNICAL_ASSET: synchronizes technology assets. • META_DATA_LINK: asset association • PHYSICAL_TABLE: Create a table (production environment). • DEV_PHYSICAL_TABLE: Create a table in the development environment. • DLF_TASK: creates a data development job. • MATERIALIZATION: Data is stored in the database (code table). • PUBLISH_TO_DLM: publishes data service APIs. • SUMMARY_STATUS: overall status
biz_catalog_id	No	String	ID of the service catalog to which the belongs.
begin_time	No	String	<p>Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.</p>

Parameter	Mandatory	Type	Description
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-1121 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1122 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1123 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-1124 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of BizMetricVO objects	BizMetricVO information.

Table 7-1125 BizMetricVO

Parameter	Type	Description
id	String	ID, which is a string. This parameter is mandatory for update and is left empty for creation.
name	String	Metric name.
code	String	Indicator code, which is read-only.
name_alias	String	Indicates the indicator alias.

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
status	String	<p>Release status of an entity. This parameter is read-only and does not need to be set during creation and update.</p> <p>Options:</p> <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_catalog_id	String	ID of the business architecture, which is a string

Parameter	Type	Description
biz_catalog_path	String	Path of the process architecture to which the process belongs. This parameter is read-only.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
data_origin	String	Data source.
unit	String	Metering unit.
time_filters	String	Statistical period (time limit).
dimensions	String	Statistical dimension.
general_filters	String	Statistical caliber and modifiers.
interval_type	String	Refresh frequency. Options: <ul style="list-style-type: none">• MINUTE: every minute• HOUR: every hour• DAY: every day• WEEK: weekly• MONTH: every month• YEAR: every year• REAL_TIME: real-time• HALF_HOUR: every half an hour• QUART: every 15 minutes• DOUBLE_WEEK: every two weeks• HALF_YEAR: every half year• HALF_DAY: every half day
apply_scenario	String	Application scenarios
technical_metric	String	Associated technical metric, which is an ID string
technical_metric_name	String	Name of the associated technical indicator. This parameter is read-only.

Parameter	Type	Description
technical_metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
measure	String	Measurement object.
owner	String	Indicator owner.
owner_department	String	Indicator management department.
destination	String	Set the purpose.
guid	String	GUID after asset synchronization. This parameter is read-only.
definition	String	Indicator definition.
expression	String	Indicates the calculation formula.
remark	String	Description.

Parameter	Type	Description
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
biz_metric	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
self_defined_fields	Array of SelfDefinedField-VO objects	Custom Fields

Table 7-1126 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.

Parameter	Type	Description
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1127 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1128 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-1129 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1130** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1131** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query the first 10 service indicator data records and return the service indicator set.

```
GET https://{endpoint}/v2/{project_id}/design/biz-metrics?offset=1&limit=10
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a BizMetricVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "id": "1193199235202428928",
        "name": "test_czh_001",
        "code": "ZB000000",
        "name_alias": null,
        "biz_type": null,
        "status": "PUBLISHED",
        "biz_catalog_id": "1193122318579281920",
        "biz_catalog_path": "test_czh_001",
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "data_origin": null,
        "unit": null,
        "time_filters": "Day",
        "dimensions": "",
        "general_filters": null,
        "interval_type": "MONTH",
        "apply_scenario": null,
        "technical_metric": null,
        "technical_metric_name": null,
        "technical_metric_type": null,
        "measure": null,
        "owner": "test_uesr",
        "owner_department": "sss",
        "destination": "Test",
        "guid": "ead2dc91-e81d-4590-94e3-5f7f69dd85b5",
        "definition": "There is no special meaning.",
        "expression": "Helen Keller formula",
        "remark": null,
        "approval_info": {
          "id": "1193199265908928512",
          "tenant_id": null,
          "name_ch": null,
          "name_en": null,
          "biz_id": "1193199235202428928",
          "biz_type": null,
          "biz_info": null,
          "biz_info_obj": null,
          "biz_version": 0,
          "biz_status": "PUBLISHED",
          "approval_status": "APPROVED",
          "approval_type": null,
          "submit_time": "2024-01-06T14:27:54+08:00",
          "create_by": null,
          "l1": null,
          "l2": null,
          "l3": null,
          "approval_time": "2024-01-15T20:27:37+08:00",
          "approver": "test_uesr",
          "email": null,
          "msg": "1",
          "directory_path": null
        },
        "new_biz": null,
        "create_time": "2024-01-06T14:27:46+08:00",
        "update_time": "2024-01-15T20:27:37+08:00",
        "l1": "test_czh_001",
        "l2": null,
        "l3": null,
        "biz_metric": "CREATE_SUCCESS",
        "summary_status": "SUMMARY_SUCCESS",
        "self_defined_fields": null
      }
    ]
  }
}
```

```
    }  
  }  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ListBizMetricsSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
```

```
        .withCredential(auth)
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
ListBizMetricsRequest request = new ListBizMetricsRequest();
try {
    ListBizMetricsResponse response = client.listBizMetrics(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListBizMetricsRequest()
        response = client.list_biz_metrics(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)
```

```
func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListBizMetricsRequest{}
    response, err := client.ListBizMetrics(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a BizMetricVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.19.2 Creating a Service Indicator

Function

Create a service indicator.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/biz-metrics

Table 7-1132 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1133 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1134 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string. This parameter is mandatory for update and is left empty for creation.
name	Yes	String	Metric name.
name_alias	No	String	Indicates the indicator alias.

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_catalog_id	Yes	String	ID of the business architecture, which is a string
data_origin	No	String	Data source.
unit	No	String	Metering unit.

Parameter	Mandatory	Type	Description
time_filters	Yes	String	Statistical period (time limit).
dimensions	No	String	Statistical dimension.
general_filters	No	String	Statistical caliber and modifiers.
interval_type	Yes	String	Refresh frequency. Options: <ul style="list-style-type: none"> • MINUTE: every minute • HOUR: every hour • DAY: every day • WEEK: weekly • MONTH: every month • YEAR: every year • REAL_TIME: real-time • HALF_HOUR: every half an hour • QUART: every 15 minutes • DOUBLE_WEEK: every two weeks • HALF_YEAR: every half year • HALF_DAY: every half day
apply_scenario	No	String	Application scenarios
technical_metric	No	String	Associated technical metric, which is an ID string

Parameter	Mandatory	Type	Description
technical_metric_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
measure	No	String	Measurement object.
owner	Yes	String	Indicator owner.
owner_department	Yes	String	Indicator management department.

Parameter	Mandatory	Type	Description
destination	Yes	String	Set the purpose.
definition	Yes	String	Indicator definition.
expression	Yes	String	Indicates the calculation formula.
remark	No	String	Description.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
self_defined_fields	No	Array of SelfDefinedFieldVO objects	Custom Fields

Table 7-1135 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string

Parameter	Mandatory	Type	Description
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-1136 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Table 7-1137 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Response Parameters

Status code: 200

Table 7-1138 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1139 data

Parameter	Type	Description
value	BizMetricVO object	value: unified outer data structure of the returned result.

Table 7-1140 BizMetricVO

Parameter	Type	Description
id	String	ID, which is a string. This parameter is mandatory for update and is left empty for creation.
name	String	Metric name.
code	String	Indicator code, which is read-only.
name_alias	String	Indicates the indicator alias.

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
status	String	<p>Release status of an entity. This parameter is read-only and does not need to be set during creation and update.</p> <p>Options:</p> <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_catalog_id	String	ID of the business architecture, which is a string

Parameter	Type	Description
biz_catalog_path	String	Path of the process architecture to which the process belongs. This parameter is read-only.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
data_origin	String	Data source.
unit	String	Metering unit.
time_filters	String	Statistical period (time limit).
dimensions	String	Statistical dimension.
general_filters	String	Statistical caliber and modifiers.
interval_type	String	Refresh frequency. Options: <ul style="list-style-type: none"> • MINUTE: every minute • HOUR: every hour • DAY: every day • WEEK: weekly • MONTH: every month • YEAR: every year • REAL_TIME: real-time • HALF_HOUR: every half an hour • QUART: every 15 minutes • DOUBLE_WEEK: every two weeks • HALF_YEAR: every half year • HALF_DAY: every half day
apply_scenario	String	Application scenarios
technical_metric	String	Associated technical metric, which is an ID string
technical_metric_name	String	Name of the associated technical indicator. This parameter is read-only.

Parameter	Type	Description
technical_metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
measure	String	Measurement object.
owner	String	Indicator owner.
owner_department	String	Indicator management department.
destination	String	Set the purpose.
guid	String	GUID after asset synchronization. This parameter is read-only.
definition	String	Indicator definition.
expression	String	Indicates the calculation formula.
remark	String	Description.

Parameter	Type	Description
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
biz_metric	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
self_defined_fields	Array of SelfDefinedField-VO objects	Custom Fields

Table 7-1141 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.

Parameter	Type	Description
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1142 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1143 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-1144 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1145** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1146** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a service indicator based on the request parameters.

```
POST https://{endpoint}/v2/{project_id}/design/biz-metrics
```

```
{
  "code" : null,
  "biz_catalog_id" : "1200479561188536320",
  "name" : "test_create_biz_metrics",
  "name_alias" : "",
  "destination" : "Business personnel describe the purpose of setting the business metric.",
  "definition" : "For example, calculate the average value of a field in a database table by month.",
```

```
"expression" : "avg(table.column)",
"data_origin" : "",
"unit" : "",
"time_filters" : "Monthly",
"dimensions" : "test_czh_0305_001",
"general_filters" : "",
"interval_type" : "HOUR",
"apply_scenario" : "",
"technical_metric" : "",
"measure" : "",
"owner_department" : "data owner dept",
"owner" : "test_uesr",
"remark" : "What should I pay attention to?",
"self_defined_fields" : [ ]
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is BizMetricVO.

```
{
  "data" : {
    "value" : {
      "id" : "1231249989901135872",
      "name" : "test_create_biz_metrics",
      "code" : "ZB000001",
      "name_alias" : "",
      "biz_type" : null,
      "status" : "DRAFT",
      "biz_catalog_id" : "1200479561188536320",
      "biz_catalog_path" : null,
      "create_by" : "test_uesr",
      "update_by" : "test_uesr",
      "data_origin" : "",
      "unit" : "",
      "time_filters" : "Monthly",
      "dimensions" : "test_czh_0305_001",
      "general_filters" : "",
      "interval_type" : "HOUR",
      "apply_scenario" : "",
      "technical_metric" : null,
      "technical_metric_name" : null,
      "technical_metric_type" : null,
      "measure" : "",
      "owner" : "test_uesr",
      "owner_department" : "data owner dept",
      "destination" : "Business personnel describe the purpose of setting the business metric.",
      "guid" : null,
      "definition" : "For example, calculate the average value of a field in a database table by month.",
      "expression" : "avg(table.column)",
      "remark" : "What should I pay attention to?",
      "approval_info" : null,
      "new_biz" : null,
      "create_time" : "2024-04-20T14:27:53.111+08:00",
      "update_time" : "2024-04-20T14:27:53.111+08:00",
      "l1" : null,
      "l2" : null,
      "l3" : null,
      "biz_metric" : null,
      "summary_status" : null,
      "self_defined_fields" : [ ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a service indicator based on the request parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateBizMetricSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```



```
        .build();
        CreateBizMetricRequest request = new CreateBizMetricRequest();
        BizMetricVO body = new BizMetricVO();
        body.withRemark("What should I pay attention to?");
        body.withExpression("avg(table.column)");
        body.withDefinition("For example, calculate the average value of a field in a database table by
month.");
        body.withDestination("Business personnel describe the purpose of setting the business metric.");
        body.withOwnerDepartment("data owner dept");
        body.withOwner("test_uesr");
        body.withMeasure("");
        body.withTechnicalMetric("");
        body.withApplyScenario("");
        body.withIntervalType(BizMetricVO.IntervalTypeEnum.fromValue("HOUR"));
        body.withGeneralFilters("");
        body.withDimensions("test_czh_0305_001");
        body.withTimeFilters("Monthly");
        body.withUnit("");
        body.withDataOrigin("");
        body.withBizCatalogId("1200479561188536320");
        body.withNameAlias("");
        body.withName("test_create_biz_metrics");
        request.withBody(body);
        try {
            CreateBizMetricResponse response = client.createBizMetric(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Create a service indicator based on the request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()
```

```
try:
    request = CreateBizMetricRequest()
    request.body = BizMetricVO(
        remark="What should I pay attention to?",
        expression="avg(table.column)",
        definition="For example, calculate the average value of a field in a database table by month.",
        destination="Business personnel describe the purpose of setting the business metric.",
        owner_department="data owner dept",
        owner="test_uesr",
        measure="",
        technical_metric="",
        apply_scenario="",
        interval_type="HOUR",
        general_filters="",
        dimensions="test_czh_0305_001",
        time_filters="Monthly",
        unit="",
        data_origin="",
        biz_catalog_id="1200479561188536320",
        name_alias="",
        name="test_create_biz_metrics"
    )
    response = client.create_biz_metric(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Create a service indicator based on the request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateBizMetricRequest{}
    remarkBizMetricVo:= "What should I pay attention to?"
    measureBizMetricVo:= ""
```

```
technicalMetricBizMetricVo:= ""
applyScenarioBizMetricVo:= ""
generalFiltersBizMetricVo:= ""
dimensionsBizMetricVo:= "test_czh_0305_001"
unitBizMetricVo:= ""
dataOriginBizMetricVo:= ""
nameAliasBizMetricVo:= ""
request.Body = &model.BizMetricVo{
    Remark: &remarkBizMetricVo,
    Expression: "avg(table.column)",
    Definition: "For example, calculate the average value of a field in a database table by month.",
    Destination: "Business personnel describe the purpose of setting the business metric.",
    OwnerDepartment: "data owner dept",
    Owner: "test_uesr",
    Measure: &measureBizMetricVo,
    TechnicalMetric: &technicalMetricBizMetricVo,
    ApplyScenario: &applyScenarioBizMetricVo,
    IntervalType: model.GetBizMetricVoIntervalTypeEnum().HOUR,
    GeneralFilters: &generalFiltersBizMetricVo,
    Dimensions: &dimensionsBizMetricVo,
    TimeFilters: "Monthly",
    Unit: &unitBizMetricVo,
    DataOrigin: &dataOriginBizMetricVo,
    BizCatalogId: "1200479561188536320",
    NameAlias: &nameAliasBizMetricVo,
    Name: "test_create_biz_metrics",
}
response, err := client.CreateBizMetric(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is BizMetricVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.19.3 Updating Service Indicators

Function

Updated service indicators.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/biz-metrics

Table 7-1147 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1148 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1149 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string. This parameter is mandatory for update and is left empty for creation.
name	Yes	String	Metric name.
name_alias	No	String	Indicates the indicator alias.

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_catalog_id	Yes	String	ID of the business architecture, which is a string
data_origin	No	String	Data source.
unit	No	String	Metering unit.

Parameter	Mandatory	Type	Description
time_filters	Yes	String	Statistical period (time limit).
dimensions	No	String	Statistical dimension.
general_filters	No	String	Statistical caliber and modifiers.
interval_type	Yes	String	Refresh frequency. Options: <ul style="list-style-type: none"> ● MINUTE: every minute ● HOUR: every hour ● DAY: every day ● WEEK: weekly ● MONTH: every month ● YEAR: every year ● REAL_TIME: real-time ● HALF_HOUR: every half an hour ● QUART: every 15 minutes ● DOUBLE_WEEK: every two weeks ● HALF_YEAR: every half year ● HALF_DAY: every half day
apply_scenario	No	String	Application scenarios
technical_metric	No	String	Associated technical metric, which is an ID string

Parameter	Mandatory	Type	Description
technical_metric_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
measure	No	String	Measurement object.
owner	Yes	String	Indicator owner.
owner_department	Yes	String	Indicator management department.

Parameter	Mandatory	Type	Description
destination	Yes	String	Set the purpose.
definition	Yes	String	Indicator definition.
expression	Yes	String	Indicates the calculation formula.
remark	No	String	Description.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
self_defined_fields	No	Array of SelfDefinedFieldVO objects	Custom Fields

Table 7-1150 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string

Parameter	Mandatory	Type	Description
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-1151 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Table 7-1152 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Response Parameters

Status code: 200

Table 7-1153 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1154 data

Parameter	Type	Description
value	Object	value: unified outer data structure of the returned result.

Table 7-1155 BizMetricVO

Parameter	Type	Description
id	String	ID, which is a string. This parameter is mandatory for update and is left empty for creation.
name	String	Metric name.
code	String	Indicator code, which is read-only.
name_alias	String	Indicates the indicator alias.

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
status	String	<p>Release status of an entity. This parameter is read-only and does not need to be set during creation and update.</p> <p>Options:</p> <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_catalog_id	String	ID of the business architecture, which is a string

Parameter	Type	Description
biz_catalog_path	String	Path of the process architecture to which the process belongs. This parameter is read-only.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
data_origin	String	Data source.
unit	String	Metering unit.
time_filters	String	Statistical period (time limit).
dimensions	String	Statistical dimension.
general_filters	String	Statistical caliber and modifiers.
interval_type	String	Refresh frequency. Options: <ul style="list-style-type: none"> • MINUTE: every minute • HOUR: every hour • DAY: every day • WEEK: weekly • MONTH: every month • YEAR: every year • REAL_TIME: real-time • HALF_HOUR: every half an hour • QUART: every 15 minutes • DOUBLE_WEEK: every two weeks • HALF_YEAR: every half year • HALF_DAY: every half day
apply_scenario	String	Application scenarios
technical_metric	String	Associated technical metric, which is an ID string
technical_metric_name	String	Name of the associated technical indicator. This parameter is read-only.

Parameter	Type	Description
technical_metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
measure	String	Measurement object.
owner	String	Indicator owner.
owner_department	String	Indicator management department.
destination	String	Set the purpose.
guid	String	GUID after asset synchronization. This parameter is read-only.
definition	String	Indicator definition.
expression	String	Indicates the calculation formula.
remark	String	Description.

Parameter	Type	Description
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
biz_metric	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
self_defined_fields	Array of SelfDefinedField-VO objects	Custom Fields

Table 7-1156 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.

Parameter	Type	Description
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1157 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1158 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-1159 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1160 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1161 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Modify service indicators based on the request parameters.

```
PUT https://{endpoint}/v2/{project_id}/design/biz-metrics
```

```
{
  "code": "ZB000001",
  "biz_catalog_id": "1200479561188536320",
  "name": "test_update_biz_metrics",
  "name_alias": "",
  "destination": "Business personnel describe the purpose of setting the business metric.",
  "definition": "For example, calculate the average value of a field in a database table by month."
}
```

```
"expression" : "avg(table.column)",
"data_origin" : "",
"unit" : "",
"time_filters" : "Monthly",
"dimensions" : "test_czh_0305_001",
"general_filters" : "",
"interval_type" : "HOUR",
"apply_scenario" : "",
"technical_metric" : "",
"measure" : "",
"owner_department" : "data owner dept",
"owner" : "test_uesr",
"remark" : "What should I pay attention to?",
"self_defined_fields" : [ ],
"id" : "1231249989901135872"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is BizMetricVO.

```
{
  "data" : {
    "value" : {
      "id" : "1231249989901135872",
      "name" : "test_update_biz_metrics",
      "code" : "ZB000001",
      "name_alias" : "",
      "biz_type" : null,
      "status" : "DRAFT",
      "biz_catalog_id" : "1200479561188536320",
      "biz_catalog_path" : null,
      "create_by" : "test_uesr",
      "update_by" : "test_uesr",
      "data_origin" : "",
      "unit" : "",
      "time_filters" : "Monthly",
      "dimensions" : "test_czh_0305_001",
      "general_filters" : "",
      "interval_type" : "HOUR",
      "apply_scenario" : "",
      "technical_metric" : null,
      "technical_metric_name" : null,
      "technical_metric_type" : null,
      "measure" : "",
      "owner" : "test_uesr",
      "owner_department" : "data owner dept",
      "destination" : "Business personnel describe the purpose of setting the business metric.",
      "guid" : null,
      "definition" : "For example, calculate the average value of a field in a database table by month.",
      "expression" : "avg(table.column)",
      "remark" : "What should I pay attention to?",
      "approval_info" : null,
      "new_biz" : null,
      "create_time" : "2024-04-20T14:27:53+08:00",
      "update_time" : "2024-04-20T14:31:44.232+08:00",
      "l1" : null,
      "l2" : null,
      "l3" : null,
      "biz_metric" : null,
      "summary_status" : null,
      "self_defined_fields" : [ ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Modify service indicators based on the request parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class UpdateBizMetricSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```

```
        .build();
        UpdateBizMetricRequest request = new UpdateBizMetricRequest();
        BizMetricVO body = new BizMetricVO();
        body.withRemark("What should I pay attention to?");
        body.withExpression("avg(table.column)");
        body.withDefinition("For example, calculate the average value of a field in a database table by
month.");
        body.withDestination("Business personnel describe the purpose of setting the business metric.");
        body.withOwnerDepartment("data owner dept");
        body.withOwner("test_uesr");
        body.withMeasure("");
        body.withTechnicalMetric("");
        body.withApplyScenario("");
        body.withIntervalType(BizMetricVO.IntervalTypeEnum.fromValue("HOUR"));
        body.withGeneralFilters("");
        body.withDimensions("test_czh_0305_001");
        body.withTimeFilters("Monthly");
        body.withUnit("");
        body.withDataOrigin("");
        body.withBizCatalogId("1200479561188536320");
        body.withNameAlias("");
        body.withCode("ZB000001");
        body.withName("test_update_biz_metrics");
        body.withId("1231249989901135872");
        request.withBody(body);
        try {
            UpdateBizMetricResponse response = client.updateBizMetric(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Modify service indicators based on the request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
```

```
.build()

try:
    request = UpdateBizMetricRequest()
    request.body = BizMetricVO(
        remark="What should I pay attention to?",
        expression="avg(table.column)",
        definition="For example, calculate the average value of a field in a database table by month.",
        destination="Business personnel describe the purpose of setting the business metric.",
        owner_department="data owner dept",
        owner="test_uesr",
        measure="",
        technical_metric="",
        apply_scenario="",
        interval_type="HOURLY",
        general_filters="",
        dimensions="test_czh_0305_001",
        time_filters="Monthly",
        unit="",
        data_origin="",
        biz_catalog_id="1200479561188536320",
        name_alias="",
        code="ZB000001",
        name="test_update_biz_metrics",
        id="1231249989901135872"
    )
    response = client.update_biz_metric(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Modify service indicators based on the request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())
```



```
request := &model.UpdateBizMetricRequest{
remarkBizMetricVo:= "What should I pay attention to?"
measureBizMetricVo:= ""
technicalMetricBizMetricVo:= ""
applyScenarioBizMetricVo:= ""
generalFiltersBizMetricVo:= ""
dimensionsBizMetricVo:= "test_czh_0305_001"
unitBizMetricVo:= ""
dataOriginBizMetricVo:= ""
nameAliasBizMetricVo:= ""
codeBizMetricVo:= "ZB000001"
idBizMetricVo:= "1231249989901135872"
request.Body = &model.BizMetricVo{
    Remark: &remarkBizMetricVo,
    Expression: "avg(table.column)",
    Definition: "For example, calculate the average value of a field in a database table by month.",
    Destination: "Business personnel describe the purpose of setting the business metric.",
    OwnerDepartment: "data owner dept",
    Owner: "test_uesr",
    Measure: &measureBizMetricVo,
    TechnicalMetric: &technicalMetricBizMetricVo,
    ApplyScenario: &applyScenarioBizMetricVo,
    IntervalType: model.GetBizMetricVoIntervalTypeEnum().HOURL,
    GeneralFilters: &generalFiltersBizMetricVo,
    Dimensions: &dimensionsBizMetricVo,
    TimeFilters: "Monthly",
    Unit: &unitBizMetricVo,
    DataOrigin: &dataOriginBizMetricVo,
    BizCatalogId: "1200479561188536320",
    NameAlias: &nameAliasBizMetricVo,
    Code: &codeBizMetricVo,
    Name: "test_update_biz_metrics",
    Id: &idBizMetricVo,
}
response, err := client.UpdateBizMetric(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is BizMetricVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.19.4 Delete Business Metrics

Function

Delete a service indicator.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/biz-metrics

Table 7-1162 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1163 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1164 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> ● PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-1165 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-1166 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400**Table 7-1167** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1168** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1169** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to delete a service indicator based on the row service indicator ID.

```
DELETE https://{endpoint}/v2/{project_id}/design/biz-metrics
{
  "ids" : [ "1231252097002024960" ]
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of deleted data records.

```
{
  "value": 1
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API is used to delete a service indicator based on the row service indicator ID.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteBizMetricSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
    }
}
```

```
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
DeleteBizMetricRequest request = new DeleteBizMetricRequest();
IdsParam body = new IdsParam();
List<String> listbodyIds = new ArrayList<>();
listbodyIds.add("1231252097002024960");
body.withIds(listbodyIds);
request.withBody(body);
try {
    DeleteBizMetricResponse response = client.deleteBizMetric(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

This API is used to delete a service indicator based on the row service indicator ID.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteBizMetricRequest()
```

```
listIdsbody = [  
    "1231252097002024960"  
]  
request.body = IdsParam(  
    ids=listIdsbody  
)  
response = client.delete_biz_metric(request)  
print(response)  
except exceptions.ClientRequestException as e:  
    print(e.status_code)  
    print(e.request_id)  
    print(e.error_code)  
    print(e.error_msg)
```

Go

This API is used to delete a service indicator based on the row service indicator ID.

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build())  
  
    request := &model.DeleteBizMetricRequest{}  
    var listIdsbody = []string{  
        "1231252097002024960",  
    }  
    request.Body = &model.IdsParam{  
        Ids: listIdsbody,  
    }  
    response, err := client.DeleteBizMetric(request)  
    if err == nil {  
        fmt.Printf("%v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.19.5 Viewing Indicator Details

Function

This API is used to view indicator details by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/biz-metrics/{id}

Table 7-1170 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-1171 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-1172 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1173 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1174 data

Parameter	Type	Description
value	BizMetricVO object	value: unified outer data structure of the returned result.

Table 7-1175 BizMetricVO

Parameter	Type	Description
id	String	ID, which is a string. This parameter is mandatory for update and is left empty for creation.
name	String	Metric name.
code	String	Indicator code, which is read-only.
name_alias	String	Indicates the indicator alias.

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
status	String	<p>Release status of an entity. This parameter is read-only and does not need to be set during creation and update.</p> <p>Options:</p> <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_catalog_id	String	ID of the business architecture, which is a string

Parameter	Type	Description
biz_catalog_path	String	Path of the process architecture to which the process belongs. This parameter is read-only.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
data_origin	String	Data source.
unit	String	Metering unit.
time_filters	String	Statistical period (time limit).
dimensions	String	Statistical dimension.
general_filters	String	Statistical caliber and modifiers.
interval_type	String	Refresh frequency. Options: <ul style="list-style-type: none"> • MINUTE: every minute • HOUR: every hour • DAY: every day • WEEK: weekly • MONTH: every month • YEAR: every year • REAL_TIME: real-time • HALF_HOUR: every half an hour • QUART: every 15 minutes • DOUBLE_WEEK: every two weeks • HALF_YEAR: every half year • HALF_DAY: every half day
apply_scenario	String	Application scenarios
technical_metric	String	Associated technical metric, which is an ID string
technical_metric_name	String	Name of the associated technical indicator. This parameter is read-only.

Parameter	Type	Description
technical_metric_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
measure	String	Measurement object.
owner	String	Indicator owner.
owner_department	String	Indicator management department.
destination	String	Set the purpose.
guid	String	GUID after asset synchronization. This parameter is read-only.
definition	String	Indicator definition.
expression	String	Indicates the calculation formula.
remark	String	Description.

Parameter	Type	Description
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
biz_metric	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
self_defined_fields	Array of SelfDefinedField-VO objects	Custom Fields

Table 7-1176 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.

Parameter	Type	Description
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1177 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1178 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-1179 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1180 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1181 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query service indicator details based on the service indicator ID.

GET https://{endpoint}/v2/{project_id}/design/biz-metrics/1231249989901135872

Example Responses

Status code: 200

This operation is successful, and the returned data is BizMetricVO details.

```
{
  "data": {
    "value": {
      "id": "1231249989901135872",
      "name": "test_update_biz_metrics",
      "code": "ZB000001",
      "name_alias": "",
      "biz_type": null,
      "status": "DRAFT",
      "biz_catalog_id": "1200479561188536320",
      "biz_catalog_path": "aaa001",
      "create_by": "test_uesr",
      "update_by": "test_uesr",
      "data_origin": "",
      "unit": "",
      "time_filters": "Monthly",
      "dimensions": "test_czh_0305_001",
      "general_filters": "",
      "interval_type": "HOURLY",
      "apply_scenario": "",
      "technical_metric": null,
      "technical_metric_name": null,
      "technical_metric_type": null,
      "measure": "",
      "owner": "test_uesr",
      "owner_department": "data owner dept",
      "destination": "Business personnel describe the purpose of setting the business metric.",
      "guid": null,
      "definition": "For example, calculate the average value of a field in a database table by month.",
      "expression": "avg(table.column)",
      "remark": "What should I pay attention to?",
      "approval_info": null,
      "new_biz": null,
      "create_time": "2024-04-20T14:27:53+08:00",
      "update_time": "2024-04-20T14:31:44+08:00",
      "l1": "aaa001",
      "l2": null,
      "l3": null,
      "biz_metric": null,
      "summary_status": null,
      "self_defined_fields": [ ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
```

```
"error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowBizMetricByIdSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        ShowBizMetricByIdRequest request = new ShowBizMetricByIdRequest();  
        request.withId("{id}");  
        try {  
            ShowBizMetricByIdResponse response = client.showBizMetricById(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials
```

```
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowBizMetricByIdRequest()
        request.id = "{id}"
        response = client.show_biz_metric_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowBizMetricByIdRequest{}
    request.Id = "{id}"
    response, err := client.ShowBizMetricById(request)
```

```
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is BizMetricVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.19.6 Viewing Indicator Dimension Information

Function

View the indicator dimension information.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/biz-metrics/dimensions

Table 7-1182 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1183 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-1184 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1185 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1186 data

Parameter	Type	Description
value	Array of strings	value: unified outer data structure of the returned result.

Status code: 400

Table 7-1187 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1188 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1189 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

View the indicator dimension information.

```
GET https://{endpoint}/v2/{project_id}/design/biz-metrics/dimensions
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a dimension name array.

```
{
  "data": {
    "value": [ "Rate Code", "Date dimension", "Payment Methods", "Suppliers" ]
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListBizMetricDimensionsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListBizMetricDimensionsRequest request = new ListBizMetricDimensionsRequest();
        try {
            ListBizMetricDimensionsResponse response = client.listBizMetricDimensions(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

```
}  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = ListBizMetricDimensionsRequest()  
        response = client.list_biz_metric_dimensions(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  

```

```
dataartsstudio.DataArtsStudioClientBuilder().
    WithRegion(region.ValueOf("<YOUR REGION>")).
    WithCredential(auth).
    Build()

request := &model.ListBizMetricDimensionsRequest{}
response, err := client.ListBizMetricDimensions(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a dimension name array.
400	BadRequest
401	Unauthorized
403	Forbidden

7.19.7 View Metric Owner Information

Function

View the metric owner information.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/biz-metrics/owners

Table 7-1190 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1191 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-1192 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1193 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 400

Table 7-1194 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1195 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1196 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

View the business metric owner set.

GET https://{endpoint}/v2/{project_id}/design/biz-metrics/owners

Example Responses

Status code: 200

This operation succeeds, and the returned data is an array of metric owner names.

```
{
  "data" : {
    "value" : [ "test_uesr" ]
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListBizMetricOwnersSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListBizMetricOwnersRequest request = new ListBizMetricOwnersRequest();
        try {
            ListBizMetricOwnersResponse response = client.listBizMetricOwners(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```



```
}  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = ListBizMetricOwnersRequest()  
        response = client.list_biz_metric_owners(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  

```

```
dataartsstudio.DataArtsStudioClientBuilder().
    WithRegion(region.ValueOf("<YOUR REGION>")).
    WithCredential(auth).
    Build())

request := &model.ListBizMetricOwnersRequest{}
response, err := client.ListBizMetricOwners(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is an array of metric owner names.
400	BadRequest
401	Unauthorized
403	Forbidden

7.19.8 Obtains indicator association information.

Function

This API is used to obtain the current metric graph.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/metric-relations/{id}

Table 7-1197 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-1198 Query Parameters

Parameter	Mandatory	Type	Description
biz_type	Yes	String	Metric type.

Request Parameters

Table 7-1199 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1200 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1201 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-1202 value

Parameter	Type	Description
all	Array of objects	Information about all service indicators.
links	Object	Associate indicators.
groups	Object	Group.
total	Integer	Total number.

Status code: 400

Table 7-1203 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1204** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1205** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query the metric graph based on the metric ID.

GET https://{endpoint}/v2/{project_id}/design/metric-relations/1193199235202428928?biz_type=BIZ_METRIC

Example Responses

Status code: 200

This operation succeeds, and the returned data is MetricRelationVOList.

```
{
  "data": {
    "value": {
      "all": [ {
        "vo": {
          "id": "1014197025488699392",
          "name_en": "zonghe8830",
          "name_ch": "zonghe8830(testweidu830)",
          "description": "",
          "create_by": "abc",
          "data_type": "STRING",
          "l1_id": null,
          "l2_id": null,
          "l3_id": "767858832738234368",
          "status": "DRAFT",
          "atomic_index_id": "1014195214723756032",
          "time_condition_id": null,
          "time_field_id": null,
          "time_field_name": null,
          "common_conditions": [ ],
          "dimension_groups": [ {
            "group_id": "1014194851576721408",
            "role": null,
            "dimension_id": "1014194851576721408",
            "hierarchies_id": null,
            "ordinal": 1,
            "group_name": "testweidu830",
            "group_code": "testweidu830",
            "biz_type": "DIMENSION",
            "hierarchies": null,
            "l1": null,
            "l2": null,
            "l3": null,
            "l1_id": null,
            "l2_id": null,
            "l3_id": null,
            "dw_type": null,
            "id": "1014197025585168384"
          } ],
          "monitor": null,
          "atomic_index": {
            "id": "1014195214723756032",
            "name_en": "zonghe8830",
            "name_ch": "zonghe8830",
            "description": "",
            "create_by": null,
            "cal_exp": "sum(${1014195020200325120}) ",
            "cal_fn_ids": null,
            "l1_id": null,
            "l2_id": null,
            "l3_id": null,
            "table_id": "1014195020183547904",
            "tb_name": null,
            "dw_type": null,
            "field_ids": [ "1014195020200325120" ],
            "field_names": null,
            "status": "DRAFT",
            "biz_type": "FACT_LOGIC_TABLE",
            "create_time": "2022-09-02T09:56:31.536+08:00",
            "update_time": "2022-09-02T09:56:31.536+08:00",
            "l1": null,
            "l2": null,
            "l3": null,
            "approval_info": null,
            "new_biz": null
          },
          "time_condition_name": null,
          "create_time": "2022-08-30T15:36:54+08:00",
          "update_time": "2022-08-30T15:36:54+08:00",
        }
      ]
    }
  }
}
```

```
"l1" : null,
"l2" : null,
"l3" : null,
"summary_table_id" : null,
"approval_info" : null,
"new_biz" : null
},
"id" : "1014197025488699392",
"tables" : [ ],
"biz_type" : "DERIVATIVE_INDEX",
"parent_ids" : [ ],
"child_ids" : [ "1014195214723756032" ]
}],
"total" : 2,
"groups" : {
  "1014194851576721408" : {
    "dimension_groups" : [ {
      "group_id" : "1014194851576721408",
      "role" : null,
      "dimension_id" : "1014194851576721408",
      "hierarchies_id" : null,
      "ordinal" : 1,
      "group_name" : "testweidu830",
      "group_code" : "testweidu830",
      "biz_type" : "DIMENSION",
      "hierarchies" : null,
      "l1" : null,
      "l2" : null,
      "l3" : null,
      "l1_id" : null,
      "l2_id" : null,
      "l3_id" : null,
      "dw_type" : null,
      "id" : "1014197025585168384"
    } ],
    "ids" : [ "1014197025488699392" ]
  }
},
"links" : {
  "vo" : {
    "id" : "1014197025488699392",
    "name_en" : "zonghe8830",
    "name_ch" : "zonghe8830(testweidu830)",
    "description" : "",
    "create_by" : "abc",
    "data_type" : "STRING",
    "l1_id" : null,
    "l2_id" : null,
    "l3_id" : "767858832738234368",
    "status" : "DRAFT",
    "atomic_index_id" : "1014195214723756032",
    "time_condition_id" : null,
    "time_field_id" : null,
    "time_field_name" : null,
    "common_conditions" : [ ],
    "dimension_groups" : [ {
      "group_id" : "1014194851576721408",
      "role" : null,
      "dimension_id" : "1014194851576721408",
      "hierarchies_id" : null,
      "ordinal" : 1,
      "group_name" : "testweidu830",
      "group_code" : "testweidu830",
      "biz_type" : "DIMENSION",
      "hierarchies" : null,
      "l1" : null,
      "l2" : null,
      "l3" : null,
      "l1_id" : null,
```

```
    "l2_id" : null,
    "l3_id" : null,
    "dw_type" : null,
    "id" : "1014197025585168384"
  } ],
  "monitor" : null,
  "atomic_index" : {
    "id" : "1014195214723756032",
    "name_en" : "zonghe8830",
    "name_ch" : "zonghe8830",
    "description" : "",
    "create_by" : null,
    "cal_exp" : "sum(${1014195020200325120}) ",
    "cal_fn_ids" : null,
    "l1_id" : null,
    "l2_id" : null,
    "l3_id" : null,
    "table_id" : "1014195020183547904",
    "tb_name" : null,
    "dw_type" : null,
    "field_ids" : [ "1014195020200325120" ],
    "field_names" : null,
    "status" : "DRAFT",
    "biz_type" : "FACT_LOGIC_TABLE",
    "create_time" : "2022-09-02T09:56:31.536+08:00",
    "update_time" : "2022-09-02T09:56:31.536+08:00",
    "l1" : null,
    "l2" : null,
    "l3" : null,
    "approval_info" : null,
    "new_biz" : null
  },
  "time_condition_name" : null,
  "create_time" : "2022-08-30T15:36:54+08:00",
  "update_time" : "2022-08-30T15:36:54+08:00",
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "summary_table_id" : null,
  "approval_info" : null,
  "new_biz" : null
},
"id" : "1014197025488699392",
"tables" : [ ],
"biz_type" : "DERIVATIVE_INDEX",
"parent_ids" : [ ],
"child_ids" : [ "1014195214723756032" ]
}
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```


Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListMetricRelationsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListMetricRelationsRequest request = new ListMetricRelationsRequest();
        request.withId("{id}");
        try {
            ListMetricRelationsResponse response = client.listMetricRelations(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListMetricRelationsRequest()
        request.id = "{id}"
        response = client.list_metric_relations(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
```

```
WithCredential(auth).
Build()

request := &model.ListMetricRelationsRequest{}
request.Id = "{id}"
response, err := client.ListMetricRelations(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is MetricRelationVOList.
400	BadRequest
401	Unauthorized
403	Forbidden

7.20 Version Information

7.20.1 Searching for Version Information

Function

Search for version information by name, creator, and modification time.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/versions

Table 7-1206 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1207 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
biz_id	No	String	Business definition ID, which is a string
biz_type	No	String	Query by service type. The options are ATOMIC_INDEX (atomic indicator), DERIVATIVE_INDEX (derivative indicator), DIMENSION (dimension), and TIME_CONDITION (time filter). DIMENSION_LOGIC_TABLE (dimension table), FACT_LOGIC_TABLE (fact table), AGGREGATION_LOGIC_TABLE (summary table), TABLE_MODEL (relational modeling table), CODE_TABLE (code table), STANDARD_ELEMENT (data standard), BIZ_METRIC (business metric), COMPOUND_METRIC (compound metric), SUBJECT (subject), ATOMIC_METRIC (atomic metric (new)), DERIVED_METRIC (Derivative (new)), COMPOSITE_METRIC (Compound (new))).

Parameter	Mandatory	Type	Description
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-1208 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1209 Response body parameters

Parameter	Type	Description
data	data object	Returned data.

Table 7-1210 data

Parameter	Type	Description
value	value object	Returned data information.

Table 7-1211 value

Parameter	Type	Description
records	Array of PublishVersionVO objects	Number of queried version value objects (PublishVersionVO).
total	Integer	Total number of records that meet the search criteria.

Table 7-1212 PublishVersionVO

Parameter	Type	Description
id	String	Version ID, which is a string
version_name	String	Version name.
version_tag	String	Version flag, which is read-only.
description	String	Version description.
biz_id	String	Business object ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Service details. This parameter is read-only.
biz_info_vo	Object	Business object.
effect_objs	String	Impact information. This parameter is read-only.
change_props	String	Indicates the change information. This parameter is read-only.
sql_ddl	String	SQL script, which is read-only.

Parameter	Type	Description
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
technical_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
data_quality	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
dlf_task	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
materialization	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
publish_to_dlm	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
biz_metric	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
is_current_version	Boolean	Indicates whether the version is the current version. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator, which is read-only.

Status code: 400

Table 7-1213 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1214 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1215 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Query the version information based on the service object ID.

```
GET https://{endpoint}/v2/{project_id}/design/versions?biz_id=1193199235202428928
```

Example Responses

Status code: 200

This operation is successful. The returned data is a PublishVersionVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "id": "1196551286263267328",
        "version_name": "V1.0",
        "version_tag": "test_czh_001_2024-01-15_20-27-37_493",
        "description": null,
        "biz_id": "1193199235202428928",
        "biz_type": "BIZ_METRIC",
        "biz_info": null,
        "biz_info_vo": null,
        "effect_objs": null,
        "change_props": null,
        "sql_ddl": null,
        "physical_table": null,
        "technical_asset": null,

```



```
"business_asset" : "CREATE_SUCCESS",
"meta_data_link" : null,
"data_quality" : null,
"dlf_task" : null,
"materialization" : null,
"publish_to_dlm" : null,
"biz_metric" : "CREATE_SUCCESS",
"summary_status" : "SUMMARY_SUCCESS",
"is_current_version" : true,
"create_time" : "2024-01-15T20:27:37+08:00",
"create_by" : "test_uesr"
} ]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchVersionsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
```

this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
SearchVersionsRequest request = new SearchVersionsRequest();
try {
    SearchVersionsResponse response = client.searchVersions(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchVersionsRequest()
        response = client.search_versions(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.SearchVersionsRequest{}
    response, err := client.SearchVersions(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful. The returned data is a PublishVersionVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.20.2 Comparing Versions

Function

This API is used to compare two versions with different IDs.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/design/versions/compare

Table 7-1216 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1217 Query Parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	Array of entity IDs, which is a string

Request Parameters

None

Response Parameters

Status code: 200

Table 7-1218 Response body parameters

Parameter	Type	Description
data	data object	Data, which is the unified outer data structure of the returned result

Table 7-1219 data

Parameter	Type	Description
value	PublishVersionVO object	CatalogVO information

Table 7-1220 PublishVersionVO

Parameter	Type	Description
id	String	Version ID, which is a string
version_name	String	Version name.
version_tag	String	Version flag, which is read-only.
description	String	Version description.
biz_id	String	Business object ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Service details. This parameter is read-only.
biz_info_vo	Object	Business object.
effect_objs	String	Impact information. This parameter is read-only.
change_props	String	Indicates the change information. This parameter is read-only.
sql_ddl	String	SQL script, which is read-only.

Parameter	Type	Description
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
dlf_task	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
materialization	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
publish_to_dlm	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
biz_metric	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
is_current_version	Boolean	Indicates whether the version is the current version. This parameter is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator, which is read-only.

Status code: 400

Table 7-1221 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1222 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1223 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Compare version 1295786824106741760 with 1301676931971940352.

```
POST https://{endpoint}/v1/{project_id}/design/versions/compare?
ids=1295786824106741760&&ids=1301676931971940352
{ }
```

Example Responses

Status code: 200

The operation succeeds. **PublishVersionVO** is returned.

```
{
  "data" : {
    "value" : {
      "id" : "1301676931971940352",
      "version_name" : "pd_test_2024-10-31_22-39-24_572",
      "version_tag" : "pd_test_2024-10-31_22-39-24_572",
      "description" : null,
      "biz_id" : "1295696904545603584",
      "biz_type" : "TABLE_MODEL",
      "biz_info" : "{\nversionName\":null,\nversionTag\":null,\nversionId\":null,\ncreateBy
\n:\n\"0833a573fe80d5401f6dc010a775569a\", \nupdateBy\":\n\"0833a573fe80d5401f6dc010a775569a
\n\", \ncreateTime\":1728959815000, \nupdateTime\":1730385564000, \nl3Id\":\n\"1089989054919065600\", \nl2Id
\n\":null, \nalias\":null, \nencoding\":\n\"LE003444\", \nprefix\":\n\"LE\", \ncodeNum\":null, \nextendInfo\":\n\"{\n
\n\ndirtyOutDatabase\":\n\"\", \ndirtyOutPrefix\":\n\"\", \ndirtyOutSuffix\":\n\"\", \ndirtyOutSwitch\":\n
\n\":\n\"false\", \nid\":\n\"1295696904545603584\", \ndescription\":\n\"None\", \ntenantId
\n\":\n\"0833a5737480d53b2f25c010dc1a7b88-workspace-eeb055e69c624311b6b9cfee89a4ec70\", \nstatus
```

```

\:"PUBLISHED\","tbName":"pd_test\","tbLogicName":"pd_test\","owner":"","queueName
\:"default\","schema":null,"dbName":"bi\","distribute":null,"distributeColumn":null,"compression
\:"null","obsLocation":null,"preCombineField":null,"dwid
\:"8259af52bd294f98920ebce75a426391\","dwName":null,"dwType":"DLI\","physicalTable
\:"UPDATE_SUCCESS\","devPhysicalTable":"NO_NEED\","technicalAsset":"NO_NEED\","businessAsset
\:"NO_NEED\","metaDataLink":"NO_NEED\","dataQuality":"UPDATE_FAILED\","dlfTask":"NO_NEED
\:"summaryStatus":"SUMMARY_FAILED\","materialization":null,"publishToDlm":null,"envType
\:"PROD_TYPE\","devVersion":null,"prodVersion":"1299388171930447872\","apild":null,"tbLogicGuid
\:"33c30a2c-5f23-4bb5-a9c5-c1c0c8a7d609\","tbGuid":null,"tblid
\:"NativeTable-8259af52bd294f98920ebce75a426391-pd_test\","partitionConf":null,"qualityOwner
\:"null","qualityId":"1295789728175833089\","qualityIdExtend":null,"useRecentlyPartition
\:"false\","reversed":null,"dirtyOutSwitch":false,"dirtyOutDatabase":"","dirtyOutPrefix
\:"\","dirtyOutSuffix":"","dlfTaskId":null,"modelId":"1295338804126908416\","model
\:"null","selfDefinedFields":null,"scheduleTime":null,"parentTableId":null,"parentTableName
\:"null","parentTableCode":null,"relatedLogicTableId":"1230888997367193600\","relatedLogicTableName
\:"pd_test\","relatedLogicTableModelId":"1148908032844009472\","relatedLogicTableModelName
\:"test_import\","logicTbName":"pd_test\","logicTbGuid":"33c30a2c-5f23-4bb5-a9c5-
c1c0c8a7d609\","logicTblid":null,"bizCatalogId":"1089989054919065600\","bizCatalogGuid
\:"null","catalogPath":null,"secretType":"PUBLIC\","tableType":"MANAGED\","dataFormat":"Parquet
\:"configs":{"obsBucket":"","approval":"","sourceType":0,"tags":[]},"secrecyLevels
\:"null","attributes":[{"versionName":null,"versionTag":null,"versionId":null,"createBy
\:"0833a573fe80d5401f6dc010a775569a\","updateBy":"0833a573fe80d5401f6dc010a775569a
\","createTime":1728959815000,"updateTime":1730385565000,"l3id":null,"l2id":null,"alias
\:"\","encoding":"LP070256\","prefix":"LP\","codeNum":null,"id
\:"1295696904545603585\","nameEn":"id\","nameCh":"id\","description":"","obsLocation
\:"null","dataType":"STRING\","isPrimaryKey":true,"isPartitionKey":false,"isForeignKey
\:"false\","extendField":false,"ordinal":1,"tableModelId":null,"relatedLogicAttrId
\:"1230888997920841728\","relatedLogicAttrName":"id\","relatedLogicAttrNameEn":"id
\","standRowId":"1294696939622932481\","standRowName":"1.1, avavqvav\","tags":[]},"secrecyLevels
\":[{"versionName":"","versionTag":null,"versionId":null,"createBy
\:"ei_dayu_y00321344_01\","updateBy":"ei_dayu_y00321344_01\","createTime
\:"1730385564000\","updateTime":1730385564000,"l3id":null,"l2id":null,"alias":null,"encoding
\:"null","prefix":null,"codeNum":null,"id":"20356\","secrecyLevelId":"1140704811168288768\","bizId
\:"1295696904545603585\","secrecyLevelName":"zcy_admin_10\","uuid":"","slevel":0,"description
\:"null","bizType":"TABLE_MODEL\","tenantId":"0833a5737480d53b2f25c010dc1a7b88-workspace-
eeb055e69c624311b6b9cfee89a4ec70\","nameEn":null,"nameCh":null,"status":null,"lastL2Id
\:"null"}],"dataTypeExtend":"","domainType":"STRING\","qualityInfos":[],"standElementValues
\:"null","selfDefinedFields":[{"fdNameCh":"Privacy level\","fdNameEn":"SecretLevel\","notNull
\:"false\","fdValue":"aa\","fdName":"Privacy level\","tenantId":null,"nameEn":null,"nameCh
\:"null","createBy":null,"l3id":null,"id":null,"status":null},{fdNameCh":"Synonym\","fdNameEn
\:"sameWord\","notNull":false,"fdValue":"bb\","fdName":"Synonym\","tenantId":null,"nameEn
\:"null","nameCh":null,"createBy":null,"l3id":null,"id":null,"status":null}],"notNull":true,"code
\:"LP070256\","bizCatalogId":null,"tenantId":null,"primaryKey":true,"partitionKey":false,"status
\:"null","lastL2Id":null},"relations":[],"reverseRelations":[],"mappings":[],"code
\:"LE003444\","nameEn":"pd_test\","nameCh":"pd_test\","tagList":[],"secrecyLevelList":[],"lastL2Id
\:"null"}],
  "biz_info_vo" : {
    "id" : "1295696904545603584",
    "model_id" : "1295338804126908416",
    "parent_table_id" : null,
    "parent_table_name" : null,
    "parent_table_code" : null,
    "related_logic_table_id" : "1230888997367193600",
    "related_logic_table_name" : "pd_test",
    "related_logic_table_model_id" : "1148908032844009472",
    "related_logic_table_model_name" : "test_import",
    "model" : {
      "id" : "1295338804126908416",
      "name" : "model_test",
      "description" : "",
      "is_physical" : true,
      "frequent" : false,
      "top" : true,
      "dw_type" : null,
      "create_time" : 1.728874437E9,
      "update_time" : 1.728874437E9,
      "create_by" : "ei_dayu_y00321344_01",
      "update_by" : "ei_dayu_y00321344_01",
      "type" : "THIRD_NF",

```

```
"layer_id" : "1255490378069700608",
"layer" : {
  "id" : "1255490378069700608",
  "level" : 1,
  "name" : "ODS",
  "type" : "THIRD_NF",
  "description" : null,
  "is_default" : true,
  "disabled_customized_field_ids" : [ "1254806436282773504" ]
},
"level" : null,
"biz_catalog_ids" : null,
"databases" : null,
"table_model_prefix" : "",
"dimension_prefix" : null,
"is_default" : false,
"has_permissions" : null
},
"data_format" : "Parquet",
"obs_bucket" : null,
"obs_location" : null,
"configs" : "{}",
"table_type" : "MANAGED",
"owner" : "",
"tb_name" : "pd_test",
"dw_id" : "8259af52bd294f98920ebce75a426391",
"db_name" : "bi",
"queue_name" : "default",
"schema" : null,
"extend_info" : "{\"dirtyOutDatabase\":\"\\\", \"dirtyOutPrefix\":\"\\\", \"dirtyOutSuffix
\\\": \"\\\", \"dirtyOutSwitch\":\"false\"}",
"tb_guid" : null,
"tb_id" : "NativeTable-8259af52bd294f98920ebce75a426391-pd_test",
"logic_tb_name" : "pd_test",
"logic_tb_guid" : "33c30a2c-5f23-4bb5-a9c5-c1c0c8a7d609",
"description" : "None",
"status" : "PUBLISHED",
"logic_tb_id" : null,
"biz_catalog_id" : "1089989054919065600",
"catalog_path" : "lxy4/lxy_3",
"create_by" : "ei_dayu_y00321344_01",
"update_by" : "ei_dayu_y00321344_01",
"create_time" : 1.728959815E9,
"update_time" : 1.730385564E9,
"tags" : [ ],
"attributes" : [ {
  "id" : "1295696904545603585",
  "name_en" : "id",
  "name_ch" : "id",
  "description" : "",
  "obs_location" : null,
  "create_by" : "ei_dayu_y00321344_01",
  "update_by" : "ei_dayu_y00321344_01",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "is_primary_key" : true,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
  "not_null" : true,
  "ordinal" : 1,
  "table_model_id" : null,
  "create_time" : 1.728959815E9,
  "update_time" : 1.730385565E9,
  "tags" : [ ],
  "secrecy_levels" : [ {
    "id" : "20356",
    "secrecyLevel_id" : "1140704811168288768",
```



```
"secrecyLevel_name" : "zcy_admin_10",
"uuid" : "",
"plevel" : 0,
"description" : null,
"biz_id" : "1295696904545603585",
"biz_type" : "TABLE_MODEL",
"create_by" : "ei_dayu_y00321344_01",
"update_by" : "ei_dayu_y00321344_01",
"create_time" : 1.730385564E9,
"update_time" : 1.730385564E9
}],
"stand_row_id" : "1294696939622932481",
"stand_row_name" : "1.1, avavvqav",
"quality_infos" : [ ],
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "Privacy level",
  "fd_name_en" : "SecretLevel",
  "not_null" : false,
  "fd_value" : "aa"
}, {
  "fd_name_ch" : "Synonym",
  "fd_name_en" : "sameWord",
  "not_null" : false,
  "fd_value" : "bb"
}
],
"code" : "LP070256",
"related_logic_attr_id" : "1230888997920841728",
"related_logic_attr_name" : "id",
"related_logic_attr_name_en" : "id"
}],
"mappings" : null,
"relations" : [ ],
"dw_type" : "DLI",
"dw_name" : "dli",
"l1" : "lx4",
"l2" : "lx3",
"l3" : null,
"l1_id" : "1088851391579066368",
"l2_id" : "1089989054919065600",
"l3_id" : null,
"partition_conf" : null,
"dlf_task_id" : null,
"use_recently_partition" : false,
"reversed" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"quality_owner" : null,
"quality_id" : "1295789728175833089",
"quality_id_extend" : null,
"distribute" : null,
"distribute_column" : null,
"compression" : null,
"pre_combine_field" : null,
"is_partition" : false,
"physical_table" : "UPDATE_SUCCESS",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "NO_NEED",
"business_asset" : "NO_NEED",
"meta_data_link" : "NO_NEED",
"data_quality" : "UPDATE_FAILED",
"summary_status" : "SUMMARY_FAILED",
"dev_version" : null,
"prod_version" : "1299388171930447872",
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE",
```

```

"alias" : null,
"self_defined_fields" : null,
"code" : "LE003444",
"has_related_physical_table" : false,
"has_related_logic_table" : false
},
"effect_objs" : null,
"change_props" : "Basic information:\nQueue: CCdefault@CC\nDatabase: CCbi@CC\n\n\nTable field:\n\nid: Data standard: CC1.1, avavqav@CC",
"sql_ddl" : null,
"physical_table" : "UPDATE_SUCCESS",
"technical_asset" : "CREATE_SUCCESS",
"business_asset" : "NO_NEED",
"meta_data_link" : "UPDATE_SUCCESS",
"data_quality" : "UPDATE_FAILED",
"dlf_task" : "NO_NEED",
"materialization" : null,
"publish_to_dlm" : null,
"biz_metric" : "NO_NEED",
"summary_status" : "SUMMARY_FAILED",
"is_current_version" : false,
"create_time" : "2024-10-31T22:39:25+08:00",
"create_by" : "ei_dayu_y00321344_01"
}
}
}

```

Status code: 400

BadRequest

```

{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}

```

Status code: 401

Unauthorized

```

{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}

```

Status code: 403

Forbidden

```

{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}

```

Status Codes

Status Code	Description
200	The operation succeeds. PublishVersionVO is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21 ER Modeling

7.21.1 Lookup Table Model List

Function

Query table model information in relational modeling by Chinese and English names, creator, reviewer, status, and modification time. The table model information includes logical entities, physical tables, and attributes.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/table-model

Table 7-1224 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1225 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.

Parameter	Mandatory	Type	Description
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be approved• PUBLISHED: released• OFFLINE_DEVELOPING: to be approved• OFFLINE: offline• REJECT: rejected
sync_status	No	String	Defines the enumeration of the synchronization status. Options: <ul style="list-style-type: none">• RUNNING: synchronizing• NO_NEED: not synchronized• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure

Parameter	Mandatory	Type	Description
sync_key	No	Array of strings	<p>Defines the enumeration of synchronization task types.</p> <p>Options:</p> <ul style="list-style-type: none"> • BUSINESS_ASSET: synchronizes service assets. • DATA_QUALITY: Create a quality job. • TECHNICAL_ASSET: synchronizes technology assets. • META_DATA_LINK: asset association • PHYSICAL_TABLE: Create a table (production environment). • DEV_PHYSICAL_TABLE: Create a table in the development environment. • DLF_TASK: creates a data development job. • MATERIALIZATION: Data is stored in the database (code table). • PUBLISH_TO_DLM: publishes data service APIs. • SUMMARY_STATUS: overall status
begin_time	No	String	<p>Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.</p>

Parameter	Mandatory	Type	Description
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
model_id	Yes	String	ID of the relational modeling model.
biz_catalog_id	No	String	ID of the service catalog to which the belongs.

Request Parameters

Table 7-1226 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1227 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1228 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-1229 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of TableModelVO objects	TableModelVO information.

Table 7-1230 TableModelVO

Parameter	Type	Description
id	String	ID, which is a string
model_id	String	ID of the relational model, which is a string
parent_table_id	String	Parent table ID, which is a string
parent_table_name	String	Parent table name, which is read-only.
parent_table_code	String	Parent table code, which is read-only.
related_logic_table_id	String	ID of the associated logical entity, which is a string
related_logic_table_name	String	Name of an associated logical entity.
related_logic_table_model_id	String	ID of the model associated with a logical entity, which is a string
related_logic_table_model_name	String	Name of the model associated with a logical entity.
model	WorkspaceVO object	Model information
data_format	String	Data Format,
obs_bucket	String	OBS bucket.
obs_location	String	Foreign Table Path
configs	String	Other configurations.
table_type	String	Table type, which is read-only.
owner	String	Person in charge.
tb_name	String	Table name.
dw_id	String	Data connection ID.

Parameter	Type	Description
db_name	String	Indicates the database name.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.
extend_info	String	Indicates the extension information.
tb_guid	String	GUID after table materialization. This parameter is read-only.
tb_id	String	Data table ID. This parameter is read-only.
logic_tb_name	String	Name of a logical entity.
logic_tb_guid	String	GUID of a logical entity. This parameter is read-only.
description	String	Description.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
logic_tb_id	String	ID of a logical entity, which is a string
biz_catalog_id	String	ID of the business catalog, which is a string
catalog_path	String	Path of the home service category: {"l1Id":"","l2Id":"","l3Id":""}.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagRecordVO objects	Read-only table tags
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
attributes	Array of TableModelAttributeVO objects	Table attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
relations	Array of RelationVO objects	Relationship.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.

Parameter	Type	Description
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
partition_conf	String	Partition expression.
dfl_task_id	String	ID of a DLF job.
use_recently_partition	Boolean	Indicates whether to use the latest partition.
reversed	Boolean	Indicates whether it is reverse.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
quality_owner	String	Quality owner.
quality_id	String	Quality ID, which is a string

Parameter	Type	Description
distributed	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distributed_column	String	DISTRIBUTE BY HASH column.
is_partition	Boolean	Indicates whether the table is a partition table. This parameter is read-only.
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
dev_physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
technical_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
meta_data_link	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
code	String	Message
has_related_physical_table	Boolean	Indicates whether an associated physical table exists.
has_related_logical_table	Boolean	Indicates whether an associated logical entity exists.

Table 7-1231 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> SDI: source data layer DWI: data integration layer DWR: data reporting layer DM: data mart layer

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Table 7-1232 TagRecordVO

Parameter	Type	Description
id	String	ID, which is a string
tag_id	String	Tag ID, which is a string
tag_name	String	Tag name.

Parameter	Type	Description
biz_id	String	Entity ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1233 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1234 TableModelAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
obs_location	String	OBS path, which is a subpath.
create_by	String	Creator.
update_by	String	Person who updates the information.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
is_foreign_key	Boolean	Indicates whether a key is a foreign key.
extend_field	Boolean	Indicates whether an attribute is inherited.
not_null	Boolean	Indicates whether the value is empty.

Parameter	Type	Description
ordinal	Integer	Sequence number.
table_model_id	String	ID of the relational model, which is a string
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagVO objects	Read-only table tags
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
code	String	Logical Attribute Code
related_logic_attr_id	String	ID of the associated logical attribute, which is a string
related_logic_attr_name	String	Associated Logical Entity Attribute Name (Zh)
related_logic_attr_name_en	String	Associated Logical Entity Attribute Name (En)

Table 7-1235 TagVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Label name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-1236 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1237 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1238 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1239 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.

Parameter	Type	Description
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-1240 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-1241 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-1242 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string

Parameter	Type	Description
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-1243 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-1244 RelationVO

Parameter	Type	Description
id	String	ID, which is a string
source_table_id	String	Source table ID, which is a string
target_table_id	String	Destination table ID, which is a string
name	String	Relationship name.
source_table_name	String	Name of the source table.
target_table_name	String	Name of the destination table.
role	String	Role.
tenant_id	String	Tenant ID.

Parameter	Type	Description
source_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
target_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
mappings	Array of RelationMappingVO objects	Table attribute information, which is read-only.

Table 7-1245 RelationMappingVO

Parameter	Type	Description
id	String	ID, which is a string
relation_id	String	Relationship ID, which is a string
source_field_id	String	Source field ID, which is a string
target_field_id	String	Destination field ID, which is a string
source_field_name	String	Name of the source table.
target_field_name	String	Name of the destination table.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1246 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400**Table 7-1247** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1248** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1249** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query information about the first 10 relational modeling tables in pagination query mode.

```
GET https://{endpoint}/v2/{project_id}/design/table-model?
offset=1&limit=10&model_id=1217123720355803136&no_attr=true
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a TableModelVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "id": "1217123755214663682",
        "model_id": "1217123720355803136",
        "parent_table_id": null,
        "parent_table_name": null,
        "parent_table_code": null,
        "related_logic_table_id": "1217074041396031488",
        "related_logic_table_name": null,
        "related_logic_table_model_id": null,
        "related_logic_table_model_name": null,
        "model": null,
        "data_format": null,
        "obs_bucket": null,
        "obs_location": null,
        "configs": "{}",
        "table_type": "MYSQL_TABLE",
        "owner": null,
        "tb_name": "test_0312",
        "dw_id": "5013aa3f86df4335945131ce9d242b80",
        "db_name": null,
        "queue_name": null,
        "schema": null,
        "extend_info": "{\"columnTag\":\" \",\"columnSecrecyLevel\":\" \",\"tableTag\":\" \",\"dirtyOutSwitch\": \"false\", \"dirtyOutDatabase\":\" \", \"dirtyOutPrefix\":\" \", \"dirtyOutSuffix\":\" \"}",
        "tb_guid": null,
        "tb_id": null,
        "logic_tb_name": "test_0312",
        "logic_tb_guid": "dcd8753b-b864-4d1f-b431-1353009ceb1a",
        "description": "No aaaa",
        "status": "OFFLINE",
        "logic_tb_id": null,
        "biz_catalog_id": "1136041543187275776",
        "catalog_path": "ccbd",
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "create_time": "2024-03-12T14:55:16+08:00",
        "update_time": "2024-04-08T09:39:19+08:00",
        "tags": [ ],

```

```
"approval_info" : {
  "id" : "1226828719683973120",
  "tenant_id" : null,
  "name_ch" : null,
  "name_en" : null,
  "biz_id" : "1217123755214663682",
  "biz_type" : null,
  "biz_info" : null,
  "biz_info_obj" : null,
  "biz_version" : 0,
  "biz_status" : "OFFLINE",
  "approval_status" : "APPROVED",
  "approval_type" : null,
  "submit_time" : "2024-04-08T09:39:20+08:00",
  "create_by" : null,
  "l1" : null,
  "l2" : null,
  "l3" : null,
  "approval_time" : "2024-04-08T09:39:20+08:00",
  "approver" : "test_uesr",
  "email" : null,
  "msg" : "Fast Approval OK.",
  "directory_path" : null
},
"new_biz" : null,
"attributes" : [ ],
"mappings" : null,
"relations" : [ ],
"dw_type" : "MYSQL",
"dw_name" : null,
"l1" : "ccbd",
"l2" : null,
"l3" : null,
"l1_id" : "1136041543187275776",
"l2_id" : null,
"l3_id" : null,
"partition_conf" : null,
"dlf_task_id" : null,
"use_recently_partition" : false,
"reversed" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"quality_owner" : null,
"quality_id" : null,
"distribute" : null,
"distribute_column" : null,
"is_partition" : false,
"physical_table" : "CREATE_FAILED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "NO_NEED",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "NO_NEED",
"summary_status" : "SUMMARY_FAILED",
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "PROD_TYPE",
"alias" : null,
"self_defined_fields" : [ {
  "fd_name_ch" : "aaa",
  "fd_name_en" : "aaa",
  "not_null" : null,
  "fd_value" : ""
} ],
"code" : "LE003441",
```

```
"has_related_physical_table" : false,
"has_related_logic_table" : true
}]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListTableModelsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);
```

```
DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListTableModelsRequest request = new ListTableModelsRequest();
try {
    ListTableModelsResponse response = client.listTableModels(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListTableModelsRequest()
        response = client.list_table_models(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
```

```
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListTableModelsRequest{}
    response, err := client.ListTableModels(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a TableModelVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.2 Creating a Table Model

Function

Create a table model in relational modeling, including logical entities and physical tables.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/table-model

Table 7-1250 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1251 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1252 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
model_id	Yes	String	ID of the relational model, which is a string
parent_table_id	No	String	Parent table ID, which is a string
related_logic_table_id	No	String	ID of the associated logical entity, which is a string
model	No	WorkspaceVO object	Model information
data_format	No	String	Data Format,
obs_bucket	No	String	OBS bucket.
obs_location	No	String	Foreign Table Path
configs	No	String	Other configurations.
owner	No	String	Person in charge.
tb_name	Yes	String	Table name.
dw_id	No	String	Data connection ID.
db_name	No	String	Indicates the database name.
queue_name	No	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	No	String	Required by the DWS type.

Parameter	Mandatory	Type	Description
extend_info	No	String	Indicates the extension information.
logic_tb_name	Yes	String	Name of a logical entity.
description	Yes	String	Description.
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
logic_tb_id	No	String	ID of a logical entity, which is a string
biz_catalog_id	No	String	ID of the business catalog, which is a string
catalog_path	No	String	Path of the home service category: { "l1Id": "", "l2Id": "", "l3Id": "" }.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
attributes	Yes	Array of TableModelAttributeVO objects	Table attribute information.
mappings	No	Array of TableMappingVO objects	Table mapping information.
relations	No	Array of RelationVO objects	Relationship.

Parameter	Mandatory	Type	Description
dw_type	Yes	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_name	No	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
partition_conf	No	String	Partition expression.
dlf_task_id	No	String	ID of a DLF job.
use_recently_partition	No	Boolean	Indicates whether to use the latest partition.
reversed	No	Boolean	Indicates whether it is reverse.
dirty_out_switch	No	Boolean	Indicates whether to output abnormal data.
dirty_out_database	No	String	Abnormal data output library.
dirty_out_prefix	No	String	Prefix of an exception table.
dirty_out_suffix	No	String	Suffix of an exception table.
quality_owner	No	String	Quality owner.
quality_id	No	String	Quality ID, which is a string

Parameter	Mandatory	Type	Description
distribute	No	String	DISTRIBUTE BY [HASH(column)] REPLICATION]. Options: <ul style="list-style-type: none"> HASH: Hashes specified columns and distributes data to specified DNs through mapping. REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	No	String	DISTRIBUTE BY HASH column.
alias	No	String	Alias
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.
code	No	String	Message

Table 7-1253 WorkspaceVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name of the workspace.
description	No	String	Description.
is_physical	No	Boolean	Indicates whether a table is a physical table.
frequent	No	Boolean	Indicates whether it is commonly used.
top	No	Boolean	Hierarchical governance.
level	No	String	Data governance layers. Options: <ul style="list-style-type: none"> SDI: source data layer DWI: data integration layer DWR: data reporting layer DM: data mart layer

Parameter	Mandatory	Type	Description
dw_type	No	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
type	Yes	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	No	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	No	Array of strings	Array of database names.
table_model_prefix	No	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Table 7-1254 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.

Parameter	Mandatory	Type	Description
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-1255 TableModelAttributeVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name_en	Yes	String	Field name.
name_ch	Yes	String	Service attribute.
description	No	String	Description.
obs_location	No	String	OBS path, which is a subpath.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
data_type	Yes	String	Field type
data_type_extend	No	String	Extended field of the data type.
is_primary_key	Yes	Boolean	Indicates whether a key is a primary key.
is_partition_key	No	Boolean	Indicates whether the key is a partition key.
is_foreign_key	No	Boolean	Indicates whether a key is a foreign key.
extend_field	No	Boolean	Indicates whether an attribute is inherited.
not_null	No	Boolean	Indicates whether the value is empty.

Parameter	Mandatory	Type	Description
ordinal	No	Integer	Sequence number.
table_model_id	No	String	ID of the relational model, which is a string
stand_row_id	No	String	ID of the associated data standard, which is a string
alias	No	String	Alias
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.
code	No	String	Logical Attribute Code
related_logic_attr_id	No	String	ID of the associated logical attribute, which is a string

Table 7-1256 TableMappingVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name.
description	No	String	Description.
target_table_id	No	String	Destination table ID, which is a string
src_model_id	No	String	ID of the relational model for the source table. The value is a string.
src_model_name	No	String	Source model name.
view_text	No	String	Source of the collected view. The dws view is used reversely.
target_table_name	No	String	Name of the destination table.
details	No	Array of TableMappingDetailVO objects	Details.

Parameter	Mandatory	Type	Description
source_tables	No	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	No	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	No	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	No	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-1257 TableMappingDetailVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
mapping_id	No	String	Name.
target_attr_id	No	String	ID of the destination attribute, which is a string
target_attr_name	Yes	String	Sort by destination field.
src_table_ids	No	String	Source table ID.
src_attr_ids	No	String	ID of a field in the source table.
remark	No	String	Description.

Parameter	Mandatory	Type	Description
create_time	No	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	No	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
target_attr	No	Object	Target attribute.

Table 7-1258 MappingSourceTableVO

Parameter	Mandatory	Type	Description
table1_id	Yes	String	Table 1 ID, which is a string
table2_id	No	String	Table 2 ID, which is a string
table1_name	Yes	String	Name of table 1.
table2_name	No	String	Name of table 2.
join_type	Yes	String	Association type. Options: <ul style="list-style-type: none"> • LEFT: left outer join • RIGHT: right outer join • INNER: inner join • FULL: full connection
join_fields	Yes	Array of MappingJoinFieldVO objects	on condition.

Table 7-1259 MappingJoinFieldVO

Parameter	Mandatory	Type	Description
field1_id	Yes	String	Attribute 1 ID, which is a string
field2_id	Yes	String	Attribute 2 ID, which is a string
field1_name	Yes	String	Name of attribute 1.
field2_name	Yes	String	Name of attribute 2.

Table 7-1260 MappingSourceFieldVO

Parameter	Mandatory	Type	Description
target_field_id	No	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	Yes	String	Target field code.
field_ids	No	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	No	String	Conversion expression.
field_names	No	Array of strings	List of source field names.
changed	No	Boolean	Indicates whether a field is changed.

Table 7-1261 RelationVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
source_table_id	No	String	Source table ID, which is a string
target_table_id	No	String	Destination table ID, which is a string
name	Yes	String	Relationship name.
source_table_name	No	String	Name of the source table.

Parameter	Mandatory	Type	Description
target_table_name	No	String	Name of the destination table.
role	No	String	Role.
tenant_id	No	String	Tenant ID.
source_type	No	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none">• ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity.• ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity.• ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity.• ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.

Parameter	Mandatory	Type	Description
target_type	No	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none">• ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity.• ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity.• ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity.• ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-1262 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Response Parameters

Status code: 200

Table 7-1263 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1264 data

Parameter	Type	Description
value	TableModelVO object	value: unified outer data structure of the returned result.

Table 7-1265 TableModelVO

Parameter	Type	Description
id	String	ID, which is a string
model_id	String	ID of the relational model, which is a string
parent_table_id	String	Parent table ID, which is a string
parent_table_name	String	Parent table name, which is read-only.
parent_table_code	String	Parent table code, which is read-only.
related_logic_table_id	String	ID of the associated logical entity, which is a string
related_logic_table_name	String	Name of an associated logical entity.
related_logic_table_model_id	String	ID of the model associated with a logical entity, which is a string
related_logic_table_model_name	String	Name of the model associated with a logical entity.
model	WorkspaceVO object	Model information
data_format	String	Data Format,
obs_bucket	String	OBS bucket.
obs_location	String	Foreign Table Path
configs	String	Other configurations.
table_type	String	Table type, which is read-only.

Parameter	Type	Description
owner	String	Person in charge.
tb_name	String	Table name.
dw_id	String	Data connection ID.
db_name	String	Indicates the database name.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.
extend_info	String	Indicates the extension information.
tb_guid	String	GUID after table materialization. This parameter is read-only.
tb_id	String	Data table ID. This parameter is read-only.
logic_tb_name	String	Name of a logical entity.
logic_tb_guid	String	GUID of a logical entity. This parameter is read-only.
description	String	Description.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
logic_tb_id	String	ID of a logical entity, which is a string
biz_catalog_id	String	ID of the business catalog, which is a string
catalog_path	String	Path of the home service category: {"l1Id":"","l2Id":"","l3Id":""}.

Parameter	Type	Description
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagRecordVO objects	Read-only table tags
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
attributes	Array of TableModelAttributeVO objects	Table attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
relations	Array of RelationVO objects	Relationship.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.

Parameter	Type	Description
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
partition_conf	String	Partition expression.
dlf_task_id	String	ID of a DLF job.
use_recently_partition	Boolean	Indicates whether to use the latest partition.
reversed	Boolean	Indicates whether it is reverse.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
quality_owner	String	Quality owner.
quality_id	String	Quality ID, which is a string

Parameter	Type	Description
distributed	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distributed_column	String	DISTRIBUTE BY HASH column.
is_partition	Boolean	Indicates whether the table is a partition table. This parameter is read-only.
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
meta_data_link	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
code	String	Message
has_related_physical_table	Boolean	Indicates whether an associated physical table exists.
has_related_logical_table	Boolean	Indicates whether an associated logical entity exists.

Table 7-1266 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> SDI: source data layer DWI: data integration layer DWR: data reporting layer DM: data mart layer

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Table 7-1267 TagRecordVO

Parameter	Type	Description
id	String	ID, which is a string
tag_id	String	Tag ID, which is a string
tag_name	String	Tag name.

Parameter	Type	Description
biz_id	String	Entity ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1268 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1269 TableModelAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
obs_location	String	OBS path, which is a subpath.
create_by	String	Creator.
update_by	String	Person who updates the information.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
is_foreign_key	Boolean	Indicates whether a key is a foreign key.
extend_field	Boolean	Indicates whether an attribute is inherited.
not_null	Boolean	Indicates whether the value is empty.

Parameter	Type	Description
ordinal	Integer	Sequence number.
table_model_id	String	ID of the relational model, which is a string
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagVO objects	Read-only table tags
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
code	String	Logical Attribute Code
related_logic_attr_id	String	ID of the associated logical attribute, which is a string
related_logic_attr_name	String	Associated Logical Entity Attribute Name (Zh)
related_logic_attr_name_en	String	Associated Logical Entity Attribute Name (En)

Table 7-1270 TagVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Label name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-1271 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1272 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1273 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1274 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.

Parameter	Type	Description
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-1275 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-1276 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-1277 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string

Parameter	Type	Description
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-1278 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-1279 RelationVO

Parameter	Type	Description
id	String	ID, which is a string
source_table_id	String	Source table ID, which is a string
target_table_id	String	Destination table ID, which is a string
name	String	Relationship name.
source_table_name	String	Name of the source table.
target_table_name	String	Name of the destination table.
role	String	Role.
tenant_id	String	Tenant ID.

Parameter	Type	Description
source_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
target_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
mappings	Array of RelationMapping VO objects	Table attribute information, which is read-only.

Table 7-1280 RelationMappingVO

Parameter	Type	Description
id	String	ID, which is a string
relation_id	String	Relationship ID, which is a string
source_field_id	String	Source field ID, which is a string
target_field_id	String	Destination field ID, which is a string
source_field_name	String	Name of the source table.
target_field_name	String	Name of the destination table.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1281 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400**Table 7-1282** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1283** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1284** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a physical table based on the request parameters.

POST https://{endpoint}/v2/{project_id}/design/table-model

```
{
  "attributes": [ {
    "id": 0,
    "code": "",
    "name_ch": "col_a",
    "name_en": "col_a",
    "alias": "",
    "description": "",
    "is_partition_key": false,
    "is_primary_key": false,
    "not_null": false,
    "ordinal": 1,
    "tags": [ {
      "name": "tag1"
    } ],
    "secrecy_levels": [ {
      "name": "secrecy_level_name"
    } ],
    "data_type": "STRING",
    "data_type_extend": "",
    "stand_row_id": null,
    "stand_row_name": null,
    "self_defined_fields": [ ]
  }, {
    "id": 0,
    "code": "",
    "name_ch": "col_b",
    "name_en": "col_b",
    "alias": "",
    "description": "",
    "is_partition_key": false,
    "is_primary_key": false,
    "not_null": false,
    "ordinal": 2,
    "tags": [ ],
    "secrecy_levels": null,
    "data_type": "STRING",
    "data_type_extend": "",
    "stand_row_id": null,
    "stand_row_name": null,
    "self_defined_fields": [ ]
  } ],
  "mappings": [ {
    "name": "mapping_name"
  } ],
  "relations": [ {
    "name": "relation_name"
  } ],
  "model_id": "1208730797675311104",
  "logic_tb_name": "test_create_table_model",
  "tb_name": "test_create_table_model",
  "code": null,
  "alias": null,
}
```



```
"parent_table_id" : null,
"related_logic_table_id" : null,
"related_logic_table_model_id" : null,
"configs" : "{}",
"table_type" : "HIVE_TABLE",
"data_format" : "Parquet",
"obs_location" : null,
"tags" : [ {
  "biz_id" : "1208730797675311105",
  "biz_type" : "TABLE_MODEL",
  "tag_id" : "1208730797675311105"
} ],
"biz_catalog_id" : "958408897973161984",
"l1" : "tesy",
"l2" : "",
"l3" : "",
"l1_id" : "958408897973161984",
"l2_id" : "",
"l3_id" : "",
"catalog_path" : "{l1Id\\:958408897973161984\\,l2Id\\:\\\",l3Id\\:\\\",l4Id\\:\\\",l5Id\\:\\\",l6Id\\:\\\",l7Id\\:\\\"}",
"dw_type" : "MRS_HIVE",
"dw_id" : "0fafdd43a342436e87e42d7217d26679",
"db_name" : null,
"queue_name" : null,
"schema" : null,
"owner" : "",
"description" : "None"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is TableModelVO.

```
{
  "data" : {
    "value" : {
      "id" : "1231921671028518912",
      "model_id" : "1208730797675311104",
      "parent_table_id" : null,
      "parent_table_name" : null,
      "parent_table_code" : null,
      "related_logic_table_id" : null,
      "related_logic_table_name" : null,
      "related_logic_table_model_id" : null,
      "related_logic_table_model_name" : null,
      "model" : null,
      "data_format" : "Parquet",
      "obs_bucket" : null,
      "obs_location" : null,
      "configs" : "{}",
      "table_type" : "HIVE_TABLE",
      "owner" : "",
      "tb_name" : "test_create_table_model",
      "dw_id" : "0fafdd43a342436e87e42d7217d26679",
      "db_name" : null,
      "queue_name" : null,
      "schema" : null,
      "extend_info" : "{dirtyOutDatabase\\:\\\",dirtyOutPrefix\\:\\\",dirtyOutSuffix\\:\\\",dirtyOutSwitch\\:\\false\\\"}",
      "tb_guid" : null,
      "tb_id" : null,
      "logic_tb_name" : "test_create_table_model",
      "logic_tb_guid" : null,
      "description" : "None",
      "status" : "DRAFT",
      "logic_tb_id" : null,

```

```

    "biz_catalog_id" : "958408897973161984",
    "catalog_path" : "{\\[11d\\":\\\"958408897973161984\\\",\\[12d\\\":\\\"\\\",\\[13d\\\":\\\"\\\",\\[14d\\\":\\\"\\\",\\[15d\\\":\\\"\\\",\\[16d\\\":\\\"\\\",\\[17d\\\":\\\"\\\"]",
    "create_by" : "test_uesr",
    "update_by" : "test_uesr",
    "create_time" : "2024-04-22T10:56:54.371+08:00",
    "update_time" : "2024-04-22T10:56:54.371+08:00",
    "tags" : [ ],
    "approval_info" : null,
    "new_biz" : null,
    "attributes" : [ {
      "id" : "0",
      "name_en" : "col_a",
      "name_ch" : "col_a",
      "description" : "",
      "obs_location" : null,
      "create_by" : null,
      "update_by" : null,
      "data_type" : "STRING",
      "domain_type" : "STRING",
      "data_type_extend" : "",
      "is_primary_key" : false,
      "is_partition_key" : false,
      "is_foreign_key" : false,
      "extend_field" : false,
      "not_null" : false,
      "ordinal" : 1,
      "table_model_id" : null,
      "create_time" : "2024-04-22T10:56:54.371+08:00",
      "update_time" : "2024-04-22T10:56:54.371+08:00",
      "tags" : [ ],
      "secrecy_levels" : null,
      "stand_row_id" : null,
      "stand_row_name" : null,
      "quality_infos" : null,
      "alias" : "",
      "self_defined_fields" : [ ],
      "code" : "",
      "related_logic_attr_id" : null,
      "related_logic_attr_name" : null,
      "related_logic_attr_name_en" : null
    }, {
      "id" : "0",
      "name_en" : "col_b",
      "name_ch" : "col_b",
      "description" : "",
      "obs_location" : null,
      "create_by" : null,
      "update_by" : null,
      "data_type" : "STRING",
      "domain_type" : "STRING",
      "data_type_extend" : "",
      "is_primary_key" : false,
      "is_partition_key" : false,
      "is_foreign_key" : false,
      "extend_field" : false,
      "not_null" : false,
      "ordinal" : 2,
      "table_model_id" : null,
      "create_time" : "2024-04-22T10:56:54.371+08:00",
      "update_time" : "2024-04-22T10:56:54.371+08:00",
      "tags" : [ ],
      "secrecy_levels" : null,
      "stand_row_id" : null,
      "stand_row_name" : null,
      "quality_infos" : null,
      "alias" : "",
      "self_defined_fields" : [ ],
      "code" : "",

```

```
"related_logic_attr_id" : null,  
"related_logic_attr_name" : null,  
"related_logic_attr_name_en" : null  
}],  
"mappings" : [ ],  
"relations" : [ ],  
"dw_type" : "MRS_HIVE",  
"dw_name" : null,  
"l1" : null,  
"l2" : null,  
"l3" : null,  
"l1_id" : null,  
"l2_id" : "",  
"l3_id" : "958408897973161984",  
"partition_conf" : null,  
"dlf_task_id" : null,  
"use_recently_partition" : false,  
"reversed" : false,  
"dirty_out_switch" : false,  
"dirty_out_database" : "",  
"dirty_out_prefix" : "",  
"dirty_out_suffix" : "",  
"quality_owner" : null,  
"quality_id" : null,  
"distribute" : null,  
"distribute_column" : null,  
"is_partition" : false,  
"physical_table" : null,  
"dev_physical_table" : null,  
"technical_asset" : null,  
"business_asset" : null,  
"meta_data_link" : null,  
"data_quality" : null,  
"summary_status" : null,  
"dev_version" : null,  
"prod_version" : null,  
"dev_version_name" : null,  
"prod_version_name" : null,  
"env_type" : null,  
"alias" : null,  
"self_defined_fields" : null,  
"code" : null,  
"has_related_physical_table" : false,  
"has_related_logic_table" : false  
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a physical table based on the request parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateTableModelSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        CreateTableModelRequest request = new CreateTableModelRequest();
        TableModelVO body = new TableModelVO();
        List<RelationVO> listbodyRelations = new ArrayList<>();
        listbodyRelations.add(
            new RelationVO()
                .withName("relation_name")
        );
        List<TableMappingVO> listbodyMappings = new ArrayList<>();
        listbodyMappings.add(
            new TableMappingVO()
                .withName("mapping_name")
        );
        List<SecrecyLevelVO> listAttributesSecrecyLevels = new ArrayList<>();
        listAttributesSecrecyLevels.add(
            new SecrecyLevelVO()
                .withName("secrecy_level_name")
        );
        List<TagVO> listAttributesTags = new ArrayList<>();
        listAttributesTags.add(
```

```
        new TagVO()
            .withName("tag1")
    );
    List<TableModelAttributeVO> listbodyAttributes = new ArrayList<>();
    listbodyAttributes.add(
        new TableModelAttributeVO()
            .withId("0")
            .withNameEn("col_a")
            .withNameCh("col_a")
            .withDescription("")
            .withDataType("STRING")
            .withDataTypeExtend("")
            .withIsPrimaryKey(false)
            .withIsPartitionKey(false)
            .withNotNull(false)
            .withOrdinal(1)
            .withTags(listAttributesTags)
            .withSecrecyLevels(listAttributesSecrecyLevels)
            .withAlias("")
            .withSelfDefinedFields()
            .withCode("")
    );
    listbodyAttributes.add(
        new TableModelAttributeVO()
            .withId("0")
            .withNameEn("col_b")
            .withNameCh("col_b")
            .withDescription("")
            .withDataType("STRING")
            .withDataTypeExtend("")
            .withIsPrimaryKey(false)
            .withIsPartitionKey(false)
            .withNotNull(false)
            .withOrdinal(2)
            .withTags()
            .withAlias("")
            .withSelfDefinedFields()
            .withCode("")
    );
    List<TagRecordVO> listbodyTags = new ArrayList<>();
    listbodyTags.add(
        new TagRecordVO()
            .withTagId("1208730797675311105")
            .withBizId("1208730797675311105")
            .withBizType(TagRecordVO.BizTypeEnum.fromValue("TABLE_MODEL"))
    );
    body.withL3Id("");
    body.withL2Id("");
    body.withL1Id("958408897973161984");
    body.withL3("");
    body.withL2("");
    body.withL1("tesy");
    body.withDwType("MRS_HIVE");
    body.withRelations(listbodyRelations);
    body.withMappings(listbodyMappings);
    body.withAttributes(listbodyAttributes);
    body.withTags(listbodyTags);

    body.withCatalogPath("{\"l1Id\":\"958408897973161984\",\"l2Id\":\"\",\"l3Id\":\"\",\"l4Id\":\"\",\"l5Id\":\"\",\"l6Id\":\"\",\"l7Id\":\"\"}");
    body.withBizCatalogId("958408897973161984");
    body.withDescription("None");
    body.withLogicTbName("test_create_table_model");
    body.withDwid("0fafdd43a342436e87e42d7217d26679");
    body.withTbName("test_create_table_model");
    body.withOwner("");
    body.withTableType("HIVE_TABLE");
    body.withConfigs("{}");
    body.withDataFormat("Parquet");
```

```
body.withModelId("1208730797675311104");
request.withBody(body);
try {
    CreateTableModelResponse response = client.createTableModel(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Create a physical table based on the request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateTableModelRequest()
        listRelationsbody = [
            RelationVO(
                name="relation_name"
            )
        ]
        listMappingsbody = [
            TableMappingVO(
                name="mapping_name"
            )
        ]
        listSecrecyLevelsAttributes = [
            SecrecyLevelVO(
                name="secrecy_level_name"
            )
        ]
        listTagsAttributes = [
            TagVO(
                name="tag1"
            )
        ]
```

```
]
listAttributesbody = [
  TableModelAttributeVO(
    id="0",
    name_en="col_a",
    name_ch="col_a",
    description="",
    data_type="STRING",
    data_type_extend="",
    is_primary_key=False,
    is_partition_key=False,
    not_null=False,
    ordinal=1,
    tags=listTagsAttributes,
    secrecy_levels=listSecrecyLevelsAttributes,
    alias="",
    code=""
  ),
  TableModelAttributeVO(
    id="0",
    name_en="col_b",
    name_ch="col_b",
    description="",
    data_type="STRING",
    data_type_extend="",
    is_primary_key=False,
    is_partition_key=False,
    not_null=False,
    ordinal=2,
    alias="",
    code=""
  )
]
listTagsbody = [
  TagRecordVO(
    tag_id="1208730797675311105",
    biz_id="1208730797675311105",
    biz_type="TABLE_MODEL"
  )
]
request.body = TableModelVO(
  l3_id="",
  l2_id="",
  l1_id="958408897973161984",
  l3="",
  l2="",
  l1="tesy",
  dw_type="MRS_HIVE",
  relations=listRelationsbody,
  mappings=listMappingsbody,
  attributes=listAttributesbody,
  tags=listTagsbody,
  catalog_path="{\"l1Id\":\"958408897973161984\",\"l2Id\":\"\",\"l3Id\":\"\",\"l4Id\":\"\",\"l5Id\":\"\",\"l6Id\":\"\",\"l7Id\":\"\"}",
  biz_catalog_id="958408897973161984",
  description="None",
  logic_tb_name="test_create_table_model",
  dw_id="0fafdd43a342436e87e42d7217d26679",
  tb_name="test_create_table_model",
  owner="",
  table_type="HIVE_TABLE",
  configs="{\"}\"",
  data_format="Parquet",
  model_id="1208730797675311104"
)
response = client.create_table_model(request)
print(response)
except exceptions.ClientRequestException as e:
  print(e.status_code)
  print(e.request_id)
```

```
print(e.error_code)
print(e.error_msg)
```

Go

Create a physical table based on the request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateTableModelRequest{}
    var listRelationsbody = []model.RelationVo{
        {
            Name: "relation_name",
        },
    }
    var listMappingsbody = []model.TableMappingVo{
        {
            Name: "mapping_name",
        },
    }
    var listSecrecyLevelsAttributes = []model.SecrecyLevelVo{
        {
            Name: "secrecy_level_name",
        },
    }
    var listTagsAttributes = []model.TagVo{
        {
            Name: "tag1",
        },
    }
    idAttributes:= "0"
    descriptionAttributes:= ""
    dataTypeExtendAttributes:= ""
    isPartitionKeyAttributes:= false
    notNullAttributes:= false
    ordinalAttributes:= int32(1)
    aliasAttributes:= ""
    codeAttributes:= ""
    idAttributes1:= "0"
```



```
descriptionAttributes1:= ""
dataTypeExtendAttributes1:= ""
isPartitionKeyAttributes1:= false
notNullAttributes1:= false
ordinalAttributes1:= int32(2)
aliasAttributes1:= ""
codeAttributes1:= ""
var listAttributesbody = []model.TableModelAttributeVo{
    {
        Id: &idAttributes,
        NameEn: "col_a",
        NameCh: "col_a",
        Description: &descriptionAttributes,
        DataType: "STRING",
        DataTypeExtend: &dataTypeExtendAttributes,
        IsPrimaryKey: false,
        IsPartitionKey: &isPartitionKeyAttributes,
        NotNull: &notNullAttributes,
        Ordinal: &ordinalAttributes,
        Tags: &listTagsAttributes,
        SecrecyLevels: &listSecrecyLevelsAttributes,
        Alias: &aliasAttributes,
        Code: &codeAttributes,
    },
    {
        Id: &idAttributes1,
        NameEn: "col_b",
        NameCh: "col_b",
        Description: &descriptionAttributes1,
        DataType: "STRING",
        DataTypeExtend: &dataTypeExtendAttributes1,
        IsPrimaryKey: false,
        IsPartitionKey: &isPartitionKeyAttributes1,
        NotNull: &notNullAttributes1,
        Ordinal: &ordinalAttributes1,
        Alias: &aliasAttributes1,
        Code: &codeAttributes1,
    },
}
bizTypeTags:= model.GetTagRecordVoBizTypeEnum().TABLE_MODEL
var listTagsbody = []model.TagRecordVo{
    {
        TagId: "1208730797675311105",
        BizId: "1208730797675311105",
        BizType: &bizTypeTags,
    },
}
l3IdTableModelVo:= ""
l2IdTableModelVo:= ""
l1IdTableModelVo:= "958408897973161984"
l3TableModelVo:= ""
l2TableModelVo:= ""
l1TableModelVo:= "tesy"
catalogPathTableModelVo:=
"{\"l1Id\":\"958408897973161984\",\"l2Id\":\"\",\"l3Id\":\"\",\"l4Id\":\"\",\"l5Id\":\"\",\"l6Id\":\"\",\"l7Id\":\"\"}"
bizCatalogIdTableModelVo:= "958408897973161984"
dwIdTableModelVo:= "0fafdd43a342436e87e42d7217d26679"
ownerTableModelVo:= ""
tableTypeTableModelVo:= "HIVE_TABLE"
configsTableModelVo:= "{}"
dataFormatTableModelVo:= "Parquet"
request.Body = &model.TableModelVo{
    L3Id: &l3IdTableModelVo,
    L2Id: &l2IdTableModelVo,
    L1Id: &l1IdTableModelVo,
    L3: &l3TableModelVo,
    L2: &l2TableModelVo,
    L1: &l1TableModelVo,
    DwType: "MRS_HIVE",
```

```
Relations: &listRelationsbody,
Mappings: &listMappingsbody,
Attributes: listAttributesbody,
Tags: &listTagsbody,
CatalogPath: &catalogPathTableModelVo,
BizCatalogId: &bizCatalogIdTableModelVo,
Description: "None",
LogicTbName: "test_create_table_model",
DwId: &dwIdTableModelVo,
TbName: "test_create_table_model",
Owner: &ownerTableModelVo,
TableType: &tableTypeTableModelVo,
Configs: &configsTableModelVo,
DataFormat: &dataFormatTableModelVo,
ModelId: "1208730797675311104",
}
response, err := client.CreateTableModel(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is TableModelVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.3 Updating a Table Model

Function

Updates a table model and its attributes, including logical entities and physical tables, in relational modeling.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/table-model

Table 7-1285 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1286 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1287 Request body parameters

Parameter	Mandatory	Type	Description
id	Yes	String	ID, which is a string
model_id	Yes	String	ID of the relational model, which is a string
parent_table_id	No	String	Parent table ID, which is a string
model	No	WorkspaceVO object	Model information
data_format	No	String	Data Format,
obs_bucket	No	String	OBS bucket.
obs_location	No	String	OBS path.
configs	No	String	Other configurations.
owner	No	String	Owner of the instance.
tb_name	Yes	String	Table name.
dw_id	No	String	Data connection ID.
db_name	No	String	Indicates the database name.
queue_name	No	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	No	String	Required by the DWS type.
extend_info	No	String	Indicates the extension information.
logic_tb_name	Yes	String	Name of a logical entity.
description	Yes	String	Description.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
logic_tb_id	No	String	ID of a logical entity, which is a string
biz_catalog_id	No	String	ID of the business catalog, which is a string
catalog_path	No	String	Path of the home service category. The format is {"l1Id":"958408897973161984","l2Id":"958408897973161985","l3Id":"958408897973161986"}.
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.
attributes	Yes	Array of TableModelAttributeVO objects	Table attribute information.
mappings	No	Array of TableMappingVO objects	Table mapping information.
relations	No	Array of RelationVO objects	Relationship.

Parameter	Mandatory	Type	Description
dw_type	Yes	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_name	No	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
l2_id	No	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
partition_conf	No	String	Partition Expression
dlf_task_id	No	String	ID of a DLF job.
use_recently_partition	No	Boolean	Indicates whether to use the latest partition.
reversed	No	Boolean	Indicates whether it is reverse.
dirty_out_switch	No	Boolean	Indicates whether to output abnormal data.
dirty_out_database	No	String	Abnormal data output library.
dirty_out_prefix	No	String	Prefix of an exception table.
dirty_out_suffix	No	String	Suffix of an exception table.
quality_owner	No	String	Quality owner.
quality_id	No	String	Quality ID, which is a string

Parameter	Mandatory	Type	Description
distribute	No	String	DISTRIBUTE BY [HASH(column)] REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	No	String	DISTRIBUTE BY HASH column.
alias	No	String	Alias
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.
has_related_physical_table	No	Boolean	Indicates whether a physical table is associated.
has_related_logical_table	No	Boolean	Indicates whether a logical entity is associated.

Table 7-1288 WorkspaceVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name of the workspace.
description	No	String	Description.
is_physical	No	Boolean	Indicates whether a table is a physical table.
frequent	No	Boolean	Indicates whether it is commonly used.
top	No	Boolean	Hierarchical governance.

Parameter	Mandatory	Type	Description
level	No	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	No	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
type	Yes	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	No	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	No	Array of strings	Array of database names.
table_model_prefix	No	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Table 7-1289 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string

Parameter	Mandatory	Type	Description
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-1290 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Table 7-1291 TableModelAttributeVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name_en	Yes	String	Field name.
name_ch	Yes	String	Service attribute.
description	No	String	Description.
obs_location	No	String	OBS path, which is a subpath.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
data_type	Yes	String	Field type
data_type_extend	No	String	Extended field of the data type.
is_primary_key	Yes	Boolean	Indicates whether a key is a primary key.
is_partition_key	No	Boolean	Indicates whether the key is a partition key.
is_foreign_key	No	Boolean	Indicates whether a key is a foreign key.
extend_field	No	Boolean	Indicates whether an attribute is inherited.

Parameter	Mandatory	Type	Description
not_null	No	Boolean	Indicates whether the value is empty.
ordinal	No	Integer	Sequence number.
table_model_id	No	String	ID of the relational model, which is a string
stand_row_id	No	String	ID of the associated data standard, which is a string
alias	No	String	Alias
self_defined_fields	No	Array of SelfDefinedFieldVO objects	User-defined item.
code	No	String	Logical Attribute Code
related_logic_attr_id	No	String	ID of the associated logical attribute, which is a string

Table 7-1292 TableMappingVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name.
description	No	String	Description.
target_table_id	No	String	Destination table ID, which is a string
src_model_id	No	String	ID of the relational model for the source table. The value is a string.
src_model_name	No	String	Source model name.
view_text	No	String	Source of the collected view. The dws view is used reversely.
target_table_name	No	String	Name of the destination table.
details	No	Array of TableMappingDetailVO objects	Details.

Parameter	Mandatory	Type	Description
source_tables	No	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	No	Array of MappingSourceFieldVO objects	Mapped field information.
create_time	No	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	No	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-1293 TableMappingDetailVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
mapping_id	No	String	Name.
target_attr_id	No	String	ID of the destination attribute, which is a string
target_attr_name	Yes	String	Sort by destination field.
src_table_ids	No	String	Source table ID.
src_attr_ids	No	String	ID of a field in the source table.
remark	No	String	Description.

Parameter	Mandatory	Type	Description
create_time	No	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	No	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.
target_attr	No	Object	Target attribute.

Table 7-1294 MappingSourceTableVO

Parameter	Mandatory	Type	Description
table1_id	Yes	String	Table 1 ID, which is a string
table2_id	No	String	Table 2 ID, which is a string
table1_name	Yes	String	Name of table 1.
table2_name	No	String	Name of table 2.
join_type	Yes	String	Association type. Options: <ul style="list-style-type: none"> • LEFT: left outer join • RIGHT: right outer join • INNER: inner join • FULL: full connection
join_fields	Yes	Array of MappingJoinFieldVO objects	on condition.

Table 7-1295 MappingJoinFieldVO

Parameter	Mandatory	Type	Description
field1_id	Yes	String	Attribute 1 ID, which is a string
field2_id	Yes	String	Attribute 2 ID, which is a string
field1_name	Yes	String	Name of attribute 1.
field2_name	Yes	String	Name of attribute 2.

Table 7-1296 MappingSourceFieldVO

Parameter	Mandatory	Type	Description
target_field_id	No	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	Yes	String	Target field code.
field_ids	No	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	No	String	Conversion expression.
field_names	No	Array of strings	List of source field names.
changed	No	Boolean	Indicates whether a field is changed.

Table 7-1297 RelationVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
source_table_id	No	String	Source table ID, which is a string
target_table_id	No	String	Destination table ID, which is a string
name	Yes	String	Relationship name.
source_table_name	No	String	Name of the source table.

Parameter	Mandatory	Type	Description
target_table_name	No	String	Name of the destination table.
role	No	String	Role.
tenant_id	No	String	Tenant ID.
source_type	No	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none">• ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity.• ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity.• ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity.• ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.

Parameter	Mandatory	Type	Description
target_type	No	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Table 7-1298 SelfDefinedFieldVO

Parameter	Mandatory	Type	Description
fd_name_ch	No	String	Chinese name of a user-defined item.
fd_name_en	No	String	English name of a customized item.
not_null	No	Boolean	Whether a parameter is mandatory.
fd_value	No	String	Attribute value

Response Parameters

Status code: 200

Table 7-1299 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1300 data

Parameter	Type	Description
value	TableModelVO object	value: unified outer data structure of the returned result.

Table 7-1301 TableModelVO

Parameter	Type	Description
id	String	ID, which is a string
model_id	String	ID of the relational model, which is a string
parent_table_id	String	Parent table ID, which is a string
parent_table_name	String	Parent table name, which is read-only.
parent_table_code	String	Parent table code, which is read-only.
related_logical_table_id	String	ID of the associated logical entity, which is a string
related_logical_table_name	String	Name of an associated logical entity.
related_logical_table_model_id	String	ID of the model associated with a logical entity, which is a string
related_logical_table_model_name	String	Name of the model associated with a logical entity.
model	WorkspaceVO object	Model information
data_format	String	Data Format,
obs_bucket	String	OBS bucket.
obs_location	String	Foreign Table Path
configs	String	Other configurations.
table_type	String	Table type, which is read-only.

Parameter	Type	Description
owner	String	Person in charge.
tb_name	String	Table name.
dw_id	String	Data connection ID.
db_name	String	Indicates the database name.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.
extend_info	String	Indicates the extension information.
tb_guid	String	GUID after table materialization. This parameter is read-only.
tb_id	String	Data table ID. This parameter is read-only.
logic_tb_name	String	Name of a logical entity.
logic_tb_guid	String	GUID of a logical entity. This parameter is read-only.
description	String	Description.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
logic_tb_id	String	ID of a logical entity, which is a string
biz_catalog_id	String	ID of the business catalog, which is a string
catalog_path	String	Path of the home service category: {"l1Id":"","l2Id":"","l3Id":""}.

Parameter	Type	Description
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagRecordVO objects	Read-only table tags
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
attributes	Array of TableModelAttributeVO objects	Table attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
relations	Array of RelationVO objects	Relationship.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.

Parameter	Type	Description
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
partition_conf	String	Partition expression.
dlf_task_id	String	ID of a DLF job.
use_recently_partition	Boolean	Indicates whether to use the latest partition.
reversed	Boolean	Indicates whether it is reverse.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
quality_owner	String	Quality owner.
quality_id	String	Quality ID, which is a string

Parameter	Type	Description
distributed	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none"> • HASH: Hashes specified columns and distributes data to specified DNs through mapping. • REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distributed_column	String	DISTRIBUTE BY HASH column.
is_partition	Boolean	Indicates whether the table is a partition table. This parameter is read-only.
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
code	String	Message
has_related_physical_table	Boolean	Indicates whether an associated physical table exists.
has_related_logical_table	Boolean	Indicates whether an associated logical entity exists.

Table 7-1302 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> SDI: source data layer DWI: data integration layer DWR: data reporting layer DM: data mart layer

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Table 7-1303 TagRecordVO

Parameter	Type	Description
id	String	ID, which is a string
tag_id	String	Tag ID, which is a string
tag_name	String	Tag name.

Parameter	Type	Description
biz_id	String	Entity ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1304 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1305 TableModelAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
obs_location	String	OBS path, which is a subpath.
create_by	String	Creator.
update_by	String	Person who updates the information.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
is_foreign_key	Boolean	Indicates whether a key is a foreign key.
extend_field	Boolean	Indicates whether an attribute is inherited.
not_null	Boolean	Indicates whether the value is empty.

Parameter	Type	Description
ordinal	Integer	Sequence number.
table_model_id	String	ID of the relational model, which is a string
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagVO objects	Read-only table tags
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
code	String	Logical Attribute Code
related_logic_attr_id	String	ID of the associated logical attribute, which is a string
related_logic_attr_name	String	Associated Logical Entity Attribute Name (Zh)
related_logic_attr_name_en	String	Associated Logical Entity Attribute Name (En)

Table 7-1306 TagVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Label name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-1307 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1308 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1309 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1310 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.

Parameter	Type	Description
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-1311 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-1312 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-1313 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string

Parameter	Type	Description
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-1314 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-1315 RelationVO

Parameter	Type	Description
id	String	ID, which is a string
source_table_id	String	Source table ID, which is a string
target_table_id	String	Destination table ID, which is a string
name	String	Relationship name.
source_table_name	String	Name of the source table.
target_table_name	String	Name of the destination table.
role	String	Role.
tenant_id	String	Tenant ID.

Parameter	Type	Description
source_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
target_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
mappings	Array of RelationMapping VO objects	Table attribute information, which is read-only.

Table 7-1316 RelationMappingVO

Parameter	Type	Description
id	String	ID, which is a string
relation_id	String	Relationship ID, which is a string
source_field_id	String	Source field ID, which is a string
target_field_id	String	Destination field ID, which is a string
source_field_name	String	Name of the source table.
target_field_name	String	Name of the destination table.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1317 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400**Table 7-1318** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1319** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1320** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Update the physical table based on the request parameters.

PUT https://{endpoint}/v2/{project_id}/design/table-model

```
{
  "id": "1231932180633112576",
  "model_id": "1208730797675311104",
  "parent_table_id": null,
  "parent_table_name": null,
  "parent_table_code": null,
  "model": {
    "id": "1208730797675311104",
    "name": "xingneng2",
    "description": "",
    "is_physical": true,
    "frequent": false,
    "top": false,
    "level": null,
    "dw_type": "MRS_HIVE",
    "create_time": "2024-02-18T11:04:39+08:00",
    "update_time": "2024-02-18T11:04:39+08:00",
    "create_by": "test_uesr",
    "update_by": "test_uesr",
    "type": "THIRD_NF",
    "biz_catalog_ids": null,
    "databases": null,
    "table_model_prefix": ""
  },
  "data_format": "Parquet",
  "obs_bucket": null,
  "obs_location": null,
  "configs": "{}",
  "table_type": "HIVE_TABLE",
  "owner": "",
  "tb_name": "test_update_table_model",
  "dw_id": "0fafdd43a342436e87e42d7217d26679",
  "db_name": null,
  "queue_name": null,
  "schema": null,
  "extend_info": "{\"dirtyOutDatabase\":\"\",\"dirtyOutPrefix\":\"\",\"dirtyOutSuffix\":\"\",\"dirtyOutSwitch\":"
  "\":\"false\"}",
  "tb_guid": null,
  "tb_id": null,
  "logic_tb_name": "test_update_table_model",
  "logic_tb_guid": null,
  "description": "None",
  "status": "DRAFT",
  "logic_tb_id": null,
  "biz_catalog_id": "958408897973161984",
  "catalog_path": "{\"l1Id\":\"958408897973161984\",\"l2Id\":\"\",\"l3Id\":\"\",\"l4Id\":\"\",\"l5Id\":\"\",\"l6Id\":"
  "\":\"\",\"l7Id\":\"\"}",
  "create_by": "test_uesr",
  "update_by": "test_uesr",
  "create_time": "2024-04-22T11:38:40+08:00",
  "update_time": "2024-04-22T11:38:40+08:00",
  "tags": [ {
    "name": "tag1"
  } ]
}
```



```
    }],
    "approval_info" : null,
    "new_biz" : null,
    "attributes" : [ {
      "id" : "1231932180754747392",
      "name_en" : "col_a",
      "name_ch" : "col_a",
      "description" : "",
      "obs_location" : null,
      "create_by" : null,
      "update_by" : null,
      "data_type" : "STRING",
      "domain_type" : "STRING",
      "data_type_extend" : "",
      "is_primary_key" : false,
      "is_partition_key" : false,
      "is_foreign_key" : false,
      "extend_field" : false,
      "not_null" : false,
      "ordinal" : 1,
      "table_model_id" : null,
      "create_time" : "2024-04-22T11:38:40+08:00",
      "update_time" : "2024-04-22T11:38:40+08:00",
      "tags" : [ {
        "name" : "tag1"
      } ],
      "secrecy_levels" : [ {
        "name" : "secrecy_level_name"
      } ],
      "stand_row_id" : null,
      "stand_row_name" : null,
      "quality_infos" : [ {
        "data_quality_id" : "1231932180754747392"
      } ],
      "alias" : "",
      "self_defined_fields" : [ {
        "fd_name_ch" : "Sue",
        "fd_name_en" : "SDSDFD",
        "not_null" : false,
        "fd_value" : ""
      }, {
        "fd_name_ch" : "test",
        "fd_name_en" : "test",
        "not_null" : false,
        "fd_value" : ""
      } ],
      "code" : "",
      "related_logic_attr_id" : null,
      "related_logic_attr_name" : null,
      "related_logic_attr_name_en" : null
    } ],
    "mappings" : [ {
      "name" : "mapping_name"
    } ],
    "relations" : [ {
      "name" : "relation_name"
    } ],
    "dw_type" : "MRS_HIVE",
    "dw_name" : "MRS_Hive",
    "l1" : "tesy",
    "l2" : "",
    "l3" : null,
    "l1_id" : "958408897973161984",
    "l2_id" : "",
    "l3_id" : null,
    "partition_conf" : null,
    "dlf_task_id" : null,
    "use_recently_partition" : false,
    "reversed" : null,
  }
```

```
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"quality_owner" : null,
"quality_id" : null,
"distribute" : null,
"distribute_column" : null,
"is_partition" : false,
"physical_table" : "NO_NEED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "NO_NEED",
"business_asset" : "NO_NEED",
"meta_data_link" : "NO_NEED",
"data_quality" : "NO_NEED",
"summary_status" : "NO_NEED",
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "INVALID_TYPE",
"alias" : null,
"self_defined_fields" : null,
"has_related_physical_table" : false,
"has_related_logic_table" : false
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is TableModelVO.

```
{
  "data" : {
    "value" : {
      "id" : "1012314146584301568",
      "model_id" : "873242752312385536",
      "parent_table_id" : null,
      "parent_table_name" : null,
      "parent_table_code" : null,
      "model" : null,
      "data_format" : "Parquet",
      "obs_bucket" : null,
      "obs_location" : null,
      "configs" : "{}",
      "table_type" : "MANAGED",
      "owner" : "",
      "tb_name" : "staff_info",
      "dw_id" : "2c9080f07b03db8d017b198a4a20002f",
      "db_name" : "ctz_test",
      "queue_name" : "default",
      "schema" : "",
      "extend_info" : "{\"dirtyOutDatabase\":\"\\\", \"dirtyOutPrefix\":\"\\\", \"dirtyOutSuffix\":\"\\\", \"dirtyOutSwitch\": \"false\"}",
      "tb_guid" : null,
      "tb_id" : "NativeTable-2c9080f07b03db8d017b198a4a20002f-ctz_test-staff_info",
      "logic_tb_name" : "staff_info",
      "logic_tb_guid" : "1ab1a58b-9412-4901-bb80-4ccaaa0580e4",
      "description" : "N/A",
      "status" : "PUBLISHED",
      "logic_tb_id" : null,
      "biz_catalog_id" : "1012306178602041344",
      "catalog_path" : "Factory/Personnel management/Personnel archive",
      "create_by" : "abc",
      "update_by" : "abc",
      "create_time" : "2022-08-25T10:55:00+08:00",
      "update_time" : "2022-08-25T10:55:45+08:00",
      "tags" : [ ],
    }
  }
}
```

```
"approval_info" : null,
"new_biz" : null,
"attributes" : [ {
  "id" : "1012314146626244608",
  "name_en" : "id",
  "name_ch" : "Primary Key",
  "description" : "",
  "obs_location" : null,
  "create_by" : "abc",
  "update_by" : "abc",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "is_primary_key" : true,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
  "not_null" : true,
  "ordinal" : 1,
  "table_model_id" : null,
  "create_time" : "2022-08-25T10:55:00+08:00",
  "update_time" : "2022-08-25T10:55:00+08:00",
  "tags" : [ ],
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1012314146626244609",
  "name_en" : "name",
  "name_ch" : "Name",
  "description" : "",
  "obs_location" : null,
  "create_by" : "abc",
  "update_by" : "abc",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
  "not_null" : false,
  "ordinal" : 2,
  "table_model_id" : null,
  "create_time" : "2022-08-25T10:55:00+08:00",
  "update_time" : "2022-08-25T10:55:00+08:00",
  "tags" : [ ],
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : null,
  "alias" : "",
  "self_defined_fields" : [ ]
}, {
  "id" : "1012314146592690176",
  "name_en" : "age",
  "name_ch" : "Age",
  "description" : "",
  "obs_location" : null,
  "create_by" : "abc",
  "update_by" : "abc",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
```

```
"not_null" : false,
"ordinal" : 3,
"table_model_id" : null,
"create_time" : "2022-08-25T10:55:00+08:00",
"update_time" : "2022-08-25T10:55:00+08:00",
"tags" : [ ],
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : null,
"alias" : "",
"self_defined_fields" : [ ]
}],
"mappings" : null,
"relations" : [ ],
"dw_type" : "DWS",
"dw_name" : null,
"l1" : "Factory",
"l2" : "Staff Management",
"l3" : "Personnel Profile",
"l1_id" : "1012305751919689728",
"l2_id" : "1012306048792526848",
"l3_id" : "1012306178602041344",
"partition_conf" : null,
"dlf_task_id" : null,
"use_recently_partition" : false,
"reversed" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"quality_owner" : null,
"quality_id" : "1012314332484304897",
"distribute" : null,
"distribute_column" : null,
"is_partition" : false,
"physical_table" : "CREATE_SUCCESS",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "UPDATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "CREATE_SUCCESS",
"summary_status" : "SUMMARY_FAILED",
"alias" : null,
"self_defined_fields" : null
}
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
```

```
"error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update the physical table based on the request parameters.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.time.OffsetDateTime;  
import java.time.format.DateTimeFormatter;  
import java.util.List;  
import java.util.ArrayList;  
  
public class UpdateTableModelSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        UpdateTableModelRequest request = new UpdateTableModelRequest();  
        TableModelUpdateVO body = new TableModelUpdateVO();  
        List<RelationVO> listbodyRelations = new ArrayList<>();  
        listbodyRelations.add(  
            new RelationVO()  
                .withName("relation_name")  
        );  
        List<TableMappingVO> listbodyMappings = new ArrayList<>();  
        listbodyMappings.add(  
            new TableMappingVO()  
                .withName("mapping_name")  
        );  
        List<SelfDefinedFieldVO> listAttributesSelfDefinedFields = new ArrayList<>();  
        listAttributesSelfDefinedFields.add(  
            new SelfDefinedFieldVO()  
                .withFdNameCh("Sue")  
                .withFdNameEn("SDSDFD")  
                .withNotNull(false)  
                .withFdValue("")  
        );  
    }  
}
```

```
);
listAttributesSelfDefinedFields.add(
    new SelfDefinedFieldVO()
        .withFdNameCh("test")
        .withFdNameEn("test")
        .withNotNull(false)
        .withFdValue("")
);
List<QualityInfoVO> listAttributesQualityInfos = new ArrayList<>();
listAttributesQualityInfos.add(
    new QualityInfoVO()
        .withDataQualityId("1231932180754747392")
);
List<SecrecyLevelVO> listAttributesSecrecyLevels = new ArrayList<>();
listAttributesSecrecyLevels.add(
    new SecrecyLevelVO()
        .withName("secrecy_level_name")
);
List<TagVO> listAttributesTags = new ArrayList<>();
listAttributesTags.add(
    new TagVO()
        .withName("tag1")
);
List<TableModelAttributeVO> listbodyAttributes = new ArrayList<>();
listbodyAttributes.add(
    new TableModelAttributeVO()
        .withId("1231932180754747392")
        .withNameEn("col_a")
        .withNameCh("col_a")
        .withDescription("")
        .withDataType("STRING")
        .withDomainType(TableModelAttributeVO.DomainTypeEnum.fromValue("STRING"))
        .withDataTypeExtend("")
        .withIsPrimaryKey(false)
        .withIsPartitionKey(false)
        .withIsForeignKey(false)
        .withExtendField(false)
        .withNotNull(false)
        .withOrdinal(1)
        .withCreateTime(OffsetDateTime.parse("2024-04-22T11:38:40+08:00",
DateTimeFormatter.ISO_OFFSET_DATE_TIME))
        .withUpdateTime(OffsetDateTime.parse("2024-04-22T11:38:40+08:00",
DateTimeFormatter.ISO_OFFSET_DATE_TIME))
        .withTags(listAttributesTags)
        .withSecrecyLevels(listAttributesSecrecyLevels)
        .withQualityInfos(listAttributesQualityInfos)
        .withAlias("")
        .withSelfDefinedFields(listAttributesSelfDefinedFields)
        .withCode("")
);
List<TagVO> listbodyTags = new ArrayList<>();
listbodyTags.add(
    new TagVO()
        .withName("tag1")
);
WorkspaceVO modelbody = new WorkspaceVO();
modelbody.withId("1208730797675311104")
    .withName("xingneng2")
    .withDescription("")
    .withIsPhysical(true)
    .withFrequent(false)
    .withTop(false)
    .withDwType("MRS_HIVE")
    .withCreateTime(OffsetDateTime.parse("2024-02-18T11:04:39+08:00",
DateTimeFormatter.ISO_OFFSET_DATE_TIME))
    .withUpdateTime(OffsetDateTime.parse("2024-02-18T11:04:39+08:00",
DateTimeFormatter.ISO_OFFSET_DATE_TIME))
    .withCreateBy("test_uesr")
    .withUpdateBy("test_uesr")
```

```
.withType(WorkspaceVO.TypeEnum.fromValue("THIRD_NF"))
.withTableModelPrefix("");
body.withHasRelatedLogicTable(false);
body.withHasRelatedPhysicalTable(false);
body.withEnvType(TableModelUpdateVO.EnvTypeEnum.fromValue("INVALID_TYPE"));
body.withSummaryStatus(TableModelUpdateVO.SummaryStatusEnum.fromValue("NO_NEED"));
body.withDataQuality(TableModelUpdateVO.DataQualityEnum.fromValue("NO_NEED"));
body.withMetaDataLink(TableModelUpdateVO.MetaDataLinkEnum.fromValue("NO_NEED"));
body.withBusinessAsset(TableModelUpdateVO.BusinessAssetEnum.fromValue("NO_NEED"));
body.withTechnicalAsset(TableModelUpdateVO.TechnicalAssetEnum.fromValue("NO_NEED"));
body.withDevPhysicalTable(TableModelUpdateVO.DevPhysicalTableEnum.fromValue("NO_NEED"));
body.withPhysicalTable(TableModelUpdateVO.PhysicalTableEnum.fromValue("NO_NEED"));
body.withIsPartition(false);
body.withDirtyOutSuffix("");
body.withDirtyOutPrefix("");
body.withDirtyOutDatabase("");
body.withDirtyOutSwitch(false);
body.withUseRecentlyPartition(false);
body.withL2Id("");
body.withL1Id("958408897973161984");
body.withL2("");
body.withL1("tesy");
body.withDwName("MRS_Hive");
body.withDwType("MRS_HIVE");
body.withRelations(listbodyRelations);
body.withMappings(listbodyMappings);
body.withAttributes(listbodyAttributes);
body.withTags(listbodyTags);
body.withUpdateTime(OffsetDateTime.parse("2024-04-22T11:38:40+08:00",
DateTimeFormatter.ISO_OFFSET_DATE_TIME));
body.withCreateTime(OffsetDateTime.parse("2024-04-22T11:38:40+08:00",
DateTimeFormatter.ISO_OFFSET_DATE_TIME));
body.withUpdateBy("test_uesr");
body.withCreateBy("test_uesr");

body.withCatalogPath("{\"l1Id\":\"958408897973161984\",\"l2Id\":\"\",\"l3Id\":\"\",\"l4Id\":\"\",\"l5Id\":\"\",\"l6Id\":\"\",\"l7Id\":\"\"}");
body.withBizCatalogId("958408897973161984");
body.withStatus(TableModelUpdateVO.StatusEnum.fromValue("DRAFT"));
body.withDescription("None");
body.withLogicTbName("test_update_table_model");

body.withExtendInfo("{\"dirtyOutDatabase\":\"\",\"dirtyOutPrefix\":\"\",\"dirtyOutSuffix\":\"\",\"dirtyOutSwitch\":\"false\"}");
body.withDwId("0fafdd43a342436e87e42d7217d26679");
body.withTbName("test_update_table_model");
body.withOwner("");
body.withTableType("HIVE_TABLE");
body.withConfigs("{}");
body.withDataFormat("Parquet");
body.withModel(modelbody);
body.withModelId("1208730797675311104");
body.withId("1231932180633112576");
request.withBody(body);
try {
    UpdateTableModelResponse response = client.updateTableModel(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
```

```
}  
}
```

Python

Update the physical table based on the request parameters.

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    # variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = UpdateTableModelRequest()  
        listRelationsbody = [  
            RelationVO(  
                name="relation_name"  
            )  
        ]  
        listMappingsbody = [  
            TableMappingVO(  
                name="mapping_name"  
            )  
        ]  
        listSelfDefinedFieldsAttributes = [  
            SelfDefinedFieldVO(  
                fd_name_ch="Sue",  
                fd_name_en="SDSDFD",  
                not_null=False,  
                fd_value=""  
            ),  
            SelfDefinedFieldVO(  
                fd_name_ch="test",  
                fd_name_en="test",  
                not_null=False,  
                fd_value=""  
            )  
        ]  
        listQualityInfosAttributes = [  
            QualityInfoVO(  
                data_quality_id="1231932180754747392"  
            )  
        ]  
        listSecrecyLevelsAttributes = [  
            SecrecyLevelVO(  
                name="secrecy_level_name"  
            )  
        ]  
        listTagsAttributes = [  

```



```
    TagVO(
      name="tag1"
    )
  ]
  listAttributesbody = [
    TableModelAttributeVO(
      id="1231932180754747392",
      name_en="col_a",
      name_ch="col_a",
      description="",
      data_type="STRING",
      domain_type="STRING",
      data_type_extend="",
      is_primary_key=False,
      is_partition_key=False,
      is_foreign_key=False,
      extend_field=False,
      not_null=False,
      ordinal=1,
      create_time="2024-04-22T11:38:40+08:00",
      update_time="2024-04-22T11:38:40+08:00",
      tags=listTagsAttributes,
      secrecy_levels=listSecrecyLevelsAttributes,
      quality_infos=listQualityInfosAttributes,
      alias="",
      self_defined_fields=listSelfDefinedFieldsAttributes,
      code=""
    )
  ]
  listTagsbody = [
    TagVO(
      name="tag1"
    )
  ]
  modelbody = WorkspaceVO(
    id="1208730797675311104",
    name="xingneng2",
    description="",
    is_physical=True,
    frequent=False,
    top=False,
    dw_type="MRS_HIVE",
    create_time="2024-02-18T11:04:39+08:00",
    update_time="2024-02-18T11:04:39+08:00",
    create_by="test_uesr",
    update_by="test_uesr",
    type="THIRD_NF",
    table_model_prefix=""
  )
  request.body = TableModelUpdateVO(
    has_related_logic_table=False,
    has_related_physical_table=False,
    env_type="INVALID_TYPE",
    summary_status="NO_NEED",
    data_quality="NO_NEED",
    meta_data_link="NO_NEED",
    business_asset="NO_NEED",
    technical_asset="NO_NEED",
    dev_physical_table="NO_NEED",
    physical_table="NO_NEED",
    is_partition=False,
    dirty_out_suffix="",
    dirty_out_prefix="",
    dirty_out_database="",
    dirty_out_switch=False,
    use_recently_partition=False,
    l2_id="",
    l1_id="958408897973161984",
    l2=""
  )
}
```

```
l1="tesy",
dw_name="MRS_Hive",
dw_type="MRS_HIVE",
relations=listRelationsbody,
mappings=listMappingsbody,
attributes=listAttributesbody,
tags=listTagsbody,
update_time="2024-04-22T11:38:40+08:00",
create_time="2024-04-22T11:38:40+08:00",
update_by="test_uesr",
create_by="test_uesr",
catalog_path="{\"l1Id\":\"958408897973161984\",\"l2Id\":\"\",\"l3Id\":\"\",\"l4Id\":\"\",\"l5Id\":\"\",\"l6Id\":\"\",\"l7Id\":\"\"}",
biz_catalog_id="958408897973161984",
status="DRAFT",
description="None",
logic_tb_name="test_update_table_model",

extend_info="{\"dirtyOutDatabase\":\"\",\"dirtyOutPrefix\":\"\",\"dirtyOutSuffix\":\"\",\"dirtyOutSwitch\":\"false\"}",
dw_id="0fafdd43a342436e87e42d7217d26679",
tb_name="test_update_table_model",
owner="",
table_type="HIVE_TABLE",
configs="{\"}",
data_format="Parquet",
model=modelbody,
model_id="1208730797675311104",
id="1231932180633112576"
)
response = client.update_table_model(request)
print(response)
except exceptions.ClientRequestException as e:
print(e.status_code)
print(e.request_id)
print(e.error_code)
print(e.error_msg)
```

Go

Update the physical table based on the request parameters.

```
package main

import (
    "fmt"
    "time"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/sdktime"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
```

```
dataartsstudio.DataArtsStudioClientBuilder().
    WithRegion(region.ValueOf("<YOUR REGION>")).
    WithCredential(auth).
    Build()

request := &model.UpdateTableModelRequest{}
var listRelationsbody = []model.RelationVo{
    {
        Name: "relation_name",
    },
}
var listMappingsbody = []model.TableMappingVo{
    {
        Name: "mapping_name",
    },
}
fdNameChSelfDefinedFields:= "Sue"
fdNameEnSelfDefinedFields:= "SDSDFD"
notNullSelfDefinedFields:= false
fdValueSelfDefinedFields:= ""
fdNameChSelfDefinedFields1:= "test"
fdNameEnSelfDefinedFields1:= "test"
notNullSelfDefinedFields1:= false
fdValueSelfDefinedFields1:= ""
var listSelfDefinedFieldsAttributes = []model.SelfDefinedFieldVo{
    {
        FdNameCh: &fdNameChSelfDefinedFields,
        FdNameEn: &fdNameEnSelfDefinedFields,
        NotNull: &notNullSelfDefinedFields,
        FdValue: &fdValueSelfDefinedFields,
    },
    {
        FdNameCh: &fdNameChSelfDefinedFields1,
        FdNameEn: &fdNameEnSelfDefinedFields1,
        NotNull: &notNullSelfDefinedFields1,
        FdValue: &fdValueSelfDefinedFields1,
    },
}
var listQualityInfosAttributes = []model.QualityInfoVo{
    {
        DataQualityId: "1231932180754747392",
    },
}
var listSecrecyLevelsAttributes = []model.SecrecyLevelVo{
    {
        Name: "secrecy_level_name",
    },
}
var listTagsAttributes = []model.TagVo{
    {
        Name: "tag1",
    },
}
idAttributes:= "1231932180754747392"
descriptionAttributes:= ""
domainTypeAttributes:= model.GetTableModelAttributeVoDomainTypeEnum().STRING
dataTypeExtendAttributes:= ""
isPartitionKeyAttributes:= false
isForeignKeyAttributes:= false
extendFieldAttributes:= false
notNullAttributes:= false
ordinalAttributes:= int32(1)
dateTimeCreateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z", "2024-04-22T11:38:40+08:00",
time.UTC)
createTimeAttributes:= sdktime.SdkTime(dateTimeCreateTime)
dateTimeUpdateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z", "2024-04-22T11:38:40+08:00",
time.UTC)
updateTimeAttributes:= sdktime.SdkTime(dateTimeUpdateTime)
aliasAttributes:= ""
```

```
codeAttributes:= ""
var listAttributesbody = []model.TableModelAttributeVo{
    {
        Id: &idAttributes,
        NameEn: "col_a",
        NameCh: "col_a",
        Description: &descriptionAttributes,
        DataType: "STRING",
        DomainType: &domainTypeAttributes,
        DataTypeExtend: &dataTypeExtendAttributes,
        IsPrimaryKey: false,
        IsPartitionKey: &isPartitionKeyAttributes,
        IsForeignKey: &isForeignKeyAttributes,
        ExtendField: &extendFieldAttributes,
        NotNull: &notNullAttributes,
        Ordinal: &ordinalAttributes,
        CreateTime: &createTimeAttributes,
        UpdateTime: &updateTimeAttributes,
        Tags: &listTagsAttributes,
        SecrecyLevels: &listSecrecyLevelsAttributes,
        QualityInfos: &listQualityInfosAttributes,
        Alias: &aliasAttributes,
        SelfDefinedFields: &listSelfDefinedFieldsAttributes,
        Code: &codeAttributes,
    },
}
var listTagsbody = []model.TagVo{
    {
        Name: "tag1",
    },
}
idModel:= "1208730797675311104"
descriptionModel:= ""
isPhysicalModel:= true
frequentModel:= false
topModel:= false
dwTypeModel:= "MRS_HIVE"
dateTimeCreateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z", "2024-02-18T11:04:39+08:00",
time.UTC)
createTimeModel:= sdktime.SdkTime(dateTimeCreateTime)
dateTimeUpdateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z", "2024-02-18T11:04:39+08:00",
time.UTC)
updateTimeModel:= sdktime.SdkTime(dateTimeUpdateTime)
createByModel:= "test_uesr"
updateByModel:= "test_uesr"
tableModelPrefixModel:= ""
modelbody := &model.WorkspaceVo{
    Id: &idModel,
    Name: "xingneng2",
    Description: &descriptionModel,
    IsPhysical: &isPhysicalModel,
    Frequent: &frequentModel,
    Top: &topModel,
    DwType: &dwTypeModel,
    CreateTime: &createTimeModel,
    UpdateTime: &updateTimeModel,
    CreateBy: &createByModel,
    UpdateBy: &updateByModel,
    Type: model.GetWorkspaceVoTypeEnum().THIRD_NF,
    TableModelPrefix: &tableModelPrefixModel,
}
hasRelatedLogicTableTableModelUpdateVo:= false
hasRelatedPhysicalTableTableModelUpdateVo:= false
envTypeEnvType:= model.GetEnvTypeEnumEnvTypeEnum().INVALID_TYPE
summaryStatusSummaryStatus:= model.GetSyncStatusEnumSummaryStatusEnum().NO_NEED
dataQualityDataQuality:= model.GetSyncStatusEnumDataQualityEnum().NO_NEED
metaDataLinkMetaDataLink:= model.GetSyncStatusEnumMetaDataSetLinkEnum().NO_NEED
businessAssetBusinessAsset:= model.GetSyncStatusEnumBusinessAssetEnum().NO_NEED
technicalAssetTechnicalAsset:= model.GetSyncStatusEnumTechnicalAssetEnum().NO_NEED
```

```
devPhysicalTableDevPhysicalTable:= model.GetSyncStatusEnumDevPhysicalTableEnum().NO_NEED
physicalTablePhysicalTable:= model.GetSyncStatusEnumPhysicalTableEnum().NO_NEED
isPartitionTableModelUpdateVo:= false
dirtyOutSuffixTableModelUpdateVo:= ""
dirtyOutPrefixTableModelUpdateVo:= ""
dirtyOutDatabaseTableModelUpdateVo:= ""
dirtyOutSwitchTableModelUpdateVo:= false
useRecentlyPartitionTableModelUpdateVo:= false
l2IdTableModelUpdateVo:= ""
l1IdTableModelUpdateVo:= "958408897973161984"
l2TableModelUpdateVo:= ""
l1TableModelUpdateVo:= "tesy"
dwNameTableModelUpdateVo:= "MRS_Hive"
dwTypeTableModelUpdateVo:= "MRS_HIVE"
dateTimeUpdateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z", "2024-04-22T11:38:40+08:00",
time.UTC)
updateTimeTableModelUpdateVo:= sdktime.SdkTime(dateTimeUpdateTime)
dateTimeCreateTime, _ := time.ParseInLocation("2006-01-02T15:04:05Z", "2024-04-22T11:38:40+08:00",
time.UTC)
createTimeTableModelUpdateVo:= sdktime.SdkTime(dateTimeCreateTime)
updateByTableModelUpdateVo:= "test_uesr"
createByTableModelUpdateVo:= "test_uesr"
catalogPathTableModelUpdateVo:=
"{\"l1Id\":\"958408897973161984\",\"l2Id\":\"\",\"l3Id\":\"\",\"l4Id\":\"\",\"l5Id\":\"\",\"l6Id\":\"\",\"l7Id\":\"\"}"
bizCatalogIdTableModelUpdateVo:= "958408897973161984"
statusStatus:= model.GetBizStatusEnumStatusEnum().DRAFT
extendInfoTableModelUpdateVo:=
"{\"dirtyOutDatabase\":\"\",\"dirtyOutPrefix\":\"\",\"dirtyOutSuffix\":\"\",\"dirtyOutSwitch\":\"false\"}"
dwlDTableModelUpdateVo:= "0fafdd43a342436e87e42d7217d26679"
ownerTableModelUpdateVo:= ""
tableTypeTableModelUpdateVo:= "HIVE_TABLE"
configsTableModelUpdateVo:= "{}"
dataFormatTableModelUpdateVo:= "Parquet"
request.Body = &model.TableModelUpdateVo{
    HasRelatedLogicTable: &hasRelatedLogicTableTableModelUpdateVo,
    HasRelatedPhysicalTable: &hasRelatedPhysicalTableTableModelUpdateVo,
    EnvType: &envTypeEnvType,
    SummaryStatus: &summaryStatusSummaryStatus,
    DataQuality: &dataQualityDataQuality,
    MetadataLink: &metaDataLinkMetaDataLink,
    BusinessAsset: &businessAssetBusinessAsset,
    TechnicalAsset: &technicalAssetTechnicalAsset,
    DevPhysicalTable: &devPhysicalTableDevPhysicalTable,
    PhysicalTable: &physicalTablePhysicalTable,
    IsPartition: &isPartitionTableModelUpdateVo,
    DirtyOutSuffix: &dirtyOutSuffixTableModelUpdateVo,
    DirtyOutPrefix: &dirtyOutPrefixTableModelUpdateVo,
    DirtyOutDatabase: &dirtyOutDatabaseTableModelUpdateVo,
    DirtyOutSwitch: &dirtyOutSwitchTableModelUpdateVo,
    UseRecentlyPartition: &useRecentlyPartitionTableModelUpdateVo,
    L2Id: &l2IdTableModelUpdateVo,
    L1Id: &l1IdTableModelUpdateVo,
    L2: &l2TableModelUpdateVo,
    L1: &l1TableModelUpdateVo,
    DwName: &dwNameTableModelUpdateVo,
    DwType: &dwTypeTableModelUpdateVo,
    Relations: &listRelationsbody,
    Mappings: &listMappingsbody,
    Attributes: listAttributesbody,
    Tags: &listTagsbody,
    UpdateTime: &updateTimeTableModelUpdateVo,
    CreateTime: &createTimeTableModelUpdateVo,
    UpdateBy: &updateByTableModelUpdateVo,
    CreateBy: &createByTableModelUpdateVo,
    CatalogPath: &catalogPathTableModelUpdateVo,
    BizCatalogId: &bizCatalogIdTableModelUpdateVo,
    Status: &statusStatus,
    Description: "None",
    LogicTbName: "test_update_table_model",
```

```
ExtendInfo: &extendInfoTableModelUpdateVo,  
DwId: &dwIdTableModelUpdateVo,  
TbName: "test_update_table_model",  
Owner: &ownerTableModelUpdateVo,  
TableType: &tableTypeTableModelUpdateVo,  
Configs: &configsTableModelUpdateVo,  
DataFormat: &dataFormatTableModelUpdateVo,  
Model: modelbody,  
ModelId: "1208730797675311104",  
Id: "1231932180633112576",  
}  
response, err := client.UpdateTableModel(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is TableModelVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.4 Deleting a Table Model

Function

Deletes a table model and its attributes, including logical entities and physical tables, from relational modeling.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/table-model

Table 7-1321 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1322 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1323 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none">● PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-1324 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-1325 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-1326 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401

Table 7-1327 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1328 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Delete the physical table based on the request parameters.

```
DELETE https://{endpoint}/v2/{project_id}/design/table-model
{
  "ids" : [ "1231921671028518912" ],
  "del_types" : "PHYSICAL_TABLE"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of deleted data records.

```
{  
  "value" : 1  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Delete the physical table based on the request parameters.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class DeleteTableModelSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)
```

```
.withAk(ak)
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
DeleteTableModelRequest request = new DeleteTableModelRequest();
IdsParam body = new IdsParam();
List<String> listbodyIds = new ArrayList<>();
listbodyIds.add("1231921671028518912");
body.withDelTypes(IdsParam.DelTypeEnum.fromValue("PHYSICAL_TABLE"));
body.withIds(listbodyIds);
request.withBody(body);
try {
    DeleteTableModelResponse response = client.deleteTableModel(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Delete the physical table based on the request parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteTableModelRequest()
        listbody = [
            "1231921671028518912"
        ]
        request.body = IdsParam(
            del_types="PHYSICAL_TABLE",
            ids=listbody
        )
```

```
response = client.delete_table_model(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Delete the physical table based on the request parameters.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteTableModelRequest{}
    var listIdsbody = []string{
        "1231921671028518912",
    }
    delTypesIdsParam:= model.GetIdsParamDelTypesEnum().PHYSICAL_TABLE
    request.Body = &model.IdsParam{
        DelTypes: &delTypesIdsParam,
        Ids: listIdsbody,
    }
    response, err := client.DeleteTableModel(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.5 Querying a Relationship

Function

Search for relationship information by relationship name (fuzzy query is supported), creator, start time, and end time.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/relation

Table 7-1329 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1330 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.

Parameter	Mandatory	Type	Description
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-1331 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-1332** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1333 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-1334 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of RelationVO objects	RelationVO information.

Table 7-1335 RelationVO

Parameter	Type	Description
id	String	ID, which is a string
source_table_id	String	Source table ID, which is a string
target_table_id	String	Destination table ID, which is a string
name	String	Relationship name.
source_table_name	String	Name of the source table.
target_table_name	String	Name of the destination table.
role	String	Role.
tenant_id	String	Tenant ID.

Parameter	Type	Description
source_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
target_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
mappings	Array of RelationMappingVO objects	Table attribute information, which is read-only.

Table 7-1336 RelationMappingVO

Parameter	Type	Description
id	String	ID, which is a string
relation_id	String	Relationship ID, which is a string
source_field_id	String	Source field ID, which is a string
target_field_id	String	Destination field ID, which is a string
source_field_name	String	Name of the source table.
target_field_name	String	Name of the destination table.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-1337 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1338** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1339** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain the relationship list based on request parameters.

```
GET https://{endpoint}/v2/{project_id}/design/relation?offset=1&limit=100
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a RelationVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 1,
      "records": [ {
        "id": "1225137038202957824",
        "source_table_id": "1225137036110000128",
        "target_table_id": "1225137037896773632",
        "name": "left_relation_right_test",
        "source_table_name": "test_left_relation",
        "target_table_name": "test_right_test",
        "role": null,
        "tenant_id": "0833a5737480d53b2f25c010dc1a7b88-workspace-
eeb055e69c624311b6b9cfee89a4ec70",
        "source_type": "ONE",
        "target_type": "ONE",
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "create_time": "2024-04-03T17:37:12+08:00",
        "update_time": "2024-04-03T17:37:12+08:00",
        "mappings": [ {
          "id": "1225137038211346432",
          "relation_id": "1225137038202957824",
          "source_field_id": "1225137036294549504",
          "target_field_id": "1225137037896773633",
          "source_field_name": "id",
          "target_field_name": "id",
          "create_by": "test_uesr",
          "update_by": "test_uesr",
          "create_time": "2024-04-03T17:37:12+08:00",
          "update_time": "2024-04-03T17:37:12+08:00"
        } ]
      } ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListRelationsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListRelationsRequest request = new ListRelationsRequest();
        try {
            ListRelationsResponse response = client.listRelations(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
```

```
# The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
# In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListRelationsRequest()
    response = client.list_relations(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListRelationsRequest{}
    response, err := client.ListRelations(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a RelationVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.6 Viewing Relationship Details

Function

This API is used to obtain relationship details by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/relation/{id}

Table 7-1340 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-1341 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-1342 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1343 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1344 data

Parameter	Type	Description
value	RelationVO object	value: unified outer data structure of the returned result.

Table 7-1345 RelationVO

Parameter	Type	Description
id	String	ID, which is a string
source_table_id	String	Source table ID, which is a string
target_table_id	String	Destination table ID, which is a string
name	String	Relationship name.
source_table_name	String	Name of the source table.
target_table_name	String	Name of the destination table.
role	String	Role.
tenant_id	String	Tenant ID.
source_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.

Parameter	Type	Description
target_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
mappings	Array of RelationMapping VO objects	Table attribute information, which is read-only.

Table 7-1346 RelationMappingVO

Parameter	Type	Description
id	String	ID, which is a string
relation_id	String	Relationship ID, which is a string
source_field_id	String	Source field ID, which is a string

Parameter	Type	Description
target_field_id	String	Destination field ID, which is a string
source_field_name	String	Name of the source table.
target_field_name	String	Name of the destination table.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-1347 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1348 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1349 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API queries relationship details by ID to obtain the relationship list.

GET https://{endpoint}/v2/{project_id}/design/relation/1225137038202957824

Example Responses

Status code: 200

This operation is successful, and the returned data is RelationVO details.

```
{
  "data": {
    "value": {
      "id": "1225137038202957824",
      "source_table_id": "1225137036110000128",
      "target_table_id": "1225137037896773632",
      "name": "left_relation_right_test",
      "source_table_name": "test_left_relation",
      "target_table_name": "test_right_test",
      "role": null,
      "tenant_id": "0833a5737480d53b2f25c010dc1a7b88-workspace-eeb055e69c624311b6b9cfee89a4ec70",
      "source_type": "ONE",
      "target_type": "ONE",
      "create_by": "test_uesr",
      "update_by": "test_uesr",
      "create_time": "2024-04-03T17:37:12+08:00",
      "update_time": "2024-04-03T17:37:12+08:00",
      "mappings": [ {
        "id": "1225137038211346432",
        "relation_id": "1225137038202957824",
        "source_field_id": "1225137036294549504",
        "target_field_id": "1225137037896773633",
        "source_field_name": "id",
        "target_field_name": "id",
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "create_time": "2024-04-03T17:37:12+08:00",
        "update_time": "2024-04-03T17:37:12+08:00"
      } ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowRelationByIdSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowRelationByIdRequest request = new ShowRelationByIdRequest();
        request.withId("{id}");
        try {
            ShowRelationByIdResponse response = client.showRelationById(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
```

```
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowRelationByIdRequest()
        request.id = "{id}"
        response = client.show_relation_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ShowRelationByIdRequest{}
request.Id = "{id}"
response, err := client.ShowRelationById(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is RelationVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.7 Querying All Relationships in a Model

Function

This API is used to query all relationships in a model.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/{model_id}/table-model/relation

Table 7-1350 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
model_id	Yes	String	ID of the relational model, which is a string. The value of model_id can be obtained from the API used to obtain a model .

Table 7-1351 Query Parameters

Parameter	Mandatory	Type	Description
table_ids	No	String	IDs of tables. The value is a string.
biz_type	No	String	Type of a table. Options: <ul style="list-style-type: none"> • TABLE_MODEL: relationship modeling (logical entity/physical table) • FACT_LOGIC_TABLE: fact table
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-1352 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-1353** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1354 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-1355 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of records objects	RelationVO information.

Table 7-1356 records

Parameter	Type	Description
tables	Array of TableModelVO objects	TableModelVO information.
inheritances	Array of objects	Level information.
relations	Array of RelationVO objects	RelationVO information.

Table 7-1357 TableModelVO

Parameter	Type	Description
id	String	ID, which is a string
model_id	String	ID of the relational model, which is a string
parent_table_id	String	Parent table ID, which is a string
parent_table_name	String	Parent table name, which is read-only.
parent_table_code	String	Parent table code, which is read-only.
related_logical_table_id	String	ID of the associated logical entity, which is a string
related_logical_table_name	String	Name of an associated logical entity.

Parameter	Type	Description
related_logic_table_model_id	String	ID of the model associated with a logical entity, which is a string
related_logic_table_model_name	String	Name of the model associated with a logical entity.
model	WorkspaceVO object	Model information
data_format	String	Data Format,
obs_bucket	String	OBS bucket.
obs_location	String	Foreign Table Path
configs	String	Other configurations.
table_type	String	Table type, which is read-only.
owner	String	Person in charge.
tb_name	String	Table name.
dw_id	String	Data connection ID.
db_name	String	Indicates the database name.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.
extend_info	String	Indicates the extension information.
tb_guid	String	GUID after table materialization. This parameter is read-only.
tb_id	String	Data table ID. This parameter is read-only.
logic_tb_name	String	Name of a logical entity.
logic_tb_guid	String	GUID of a logical entity. This parameter is read-only.
description	String	Description.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
logic_tb_id	String	ID of a logical entity, which is a string
biz_catalog_id	String	ID of the business catalog, which is a string
catalog_path	String	Path of the home service category: {"l1Id":"","l2Id":"","l3Id":""}.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagRecordVO objects	Read-only table tags
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
attributes	Array of TableModelAttributeVO objects	Table attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
relations	Array of RelationVO objects	Relationship.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
partition_conf	String	Partition expression.
dfl_task_id	String	ID of a DLF job.

Parameter	Type	Description
use_recently_partition	Boolean	Indicates whether to use the latest partition.
reversed	Boolean	Indicates whether it is reverse.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
quality_owner	String	Quality owner.
quality_id	String	Quality ID, which is a string
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
is_partition	Boolean	Indicates whether the table is a partition table. This parameter is read-only.
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
business_asset	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
meta_data_link	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
code	String	Message
has_related_physical_table	Boolean	Indicates whether an associated physical table exists.
has_related_logical_table	Boolean	Indicates whether an associated logical entity exists.

Table 7-1358 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> SDI: source data layer DWI: data integration layer DWR: data reporting layer DM: data mart layer

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Table 7-1359 TagRecordVO

Parameter	Type	Description
id	String	ID, which is a string
tag_id	String	Tag ID, which is a string
tag_name	String	Tag name.

Parameter	Type	Description
biz_id	String	Entity ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1360 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1361 TableModelAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
obs_location	String	OBS path, which is a subpath.
create_by	String	Creator.
update_by	String	Person who updates the information.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
is_foreign_key	Boolean	Indicates whether a key is a foreign key.
extend_field	Boolean	Indicates whether an attribute is inherited.
not_null	Boolean	Indicates whether the value is empty.

Parameter	Type	Description
ordinal	Integer	Sequence number.
table_model_id	String	ID of the relational model, which is a string
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagVO objects	Read-only table tags
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
code	String	Logical Attribute Code
related_logic_attr_id	String	ID of the associated logical attribute, which is a string
related_logic_attr_name	String	Associated Logical Entity Attribute Name (Zh)
related_logic_attr_name_en	String	Associated Logical Entity Attribute Name (En)

Table 7-1362 TagVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Label name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-1363 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1364 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1365 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1366 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.

Parameter	Type	Description
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-1367 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-1368 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-1369 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string

Parameter	Type	Description
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-1370 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-1371 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Table 7-1372 RelationVO

Parameter	Type	Description
id	String	ID, which is a string
source_table_id	String	Source table ID, which is a string
target_table_id	String	Destination table ID, which is a string
name	String	Relationship name.
source_table_name	String	Name of the source table.

Parameter	Type	Description
target_table_name	String	Name of the destination table.
role	String	Role.
tenant_id	String	Tenant ID.
source_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
target_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	String	Creator.

Parameter	Type	Description
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
mappings	Array of RelationMapping VO objects	Table attribute information, which is read-only.

Table 7-1373 RelationMappingVO

Parameter	Type	Description
id	String	ID, which is a string
relation_id	String	Relationship ID, which is a string
source_field_id	String	Source field ID, which is a string
target_field_id	String	Destination field ID, which is a string
source_field_name	String	Name of the source table.
target_field_name	String	Name of the destination table.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-1374 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1375** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1376** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query all relationships in a model. The first 100 relationships are queried.

```
GET https://{endpoint}/v2/{project_id}/design/1208450696123420672/table-model/relation?offset=1&limit=100&no_version_detail=true
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is RelationVO.

```
{
  "data" : {
    "value" : {
      "total" : 1,
      "records" : [ {
        "tables" : [ {
          "id" : "1204850788338421760",
          "model_id" : "1204810091711352832",
          "parent_table_id" : null,
          "parent_table_name" : null,
          "parent_table_code" : null,
          "related_logic_table_id" : null,
          "related_logic_table_name" : null,
          "related_logic_table_model_id" : null,
          "related_logic_table_model_name" : null,
          "model" : null,
          "data_format" : null,
          "obs_bucket" : null,
          "obs_location" : null,
          "configs" : null,
          "table_type" : "CLICKHOUSE_TABLE",
          "owner" : "",
          "tb_name" : "fact_dim_clicknor",
          "dw_id" : "f2e4ba7e48df4599a18563f7918fb9ed",
          "db_name" : "default",
          "queue_name" : null,
          "schema" : null,
          "extend_info" : "{\"dirtyOutDatabase\":\"\",\"dirtyOutPrefix\":\"\",\"dirtyOutSuffix\":"
          "\":\"\", \"dirtyOutSwitch\":\"false\"}",
          "tb_guid" : null,
          "tb_id" : null,
          "logic_tb_name" : "ClickNormal# () ()",
          "logic_tb_guid" : null,
          "description" : "ClickNormal# () ()",
          "status" : "DRAFT",
          "logic_tb_id" : null,
          "biz_catalog_id" : "958408897973161984",
          "catalog_path" : null,
          "create_by" : "test_uesr",
          "update_by" : "test_uesr",
          "create_time" : "2024-02-07T18:06:53+08:00",
          "update_time" : "2024-02-07T18:06:53+08:00",
          "tags" : [ ],
          "approval_info" : null,
          "new_biz" : null,
          "attributes" : [ {
            "id" : "1204850788338421761",
            "name_en" : "ww",
            "name_ch" : "ww",
            "description" : null,
            "obs_location" : null,
            "create_by" : null,
            "update_by" : null,
            "data_type" : "STRING",
            "domain_type" : "STRING",
            "data_type_extend" : null,
            "is_primary_key" : false,
            "is_partition_key" : false,
            "is_foreign_key" : false,
            "extend_field" : false,
            "not_null" : false,
            "ordinal" : 1,
            "table_model_id" : null,
            "create_time" : "2024-02-07T18:06:53+08:00",
            "update_time" : "2024-02-07T18:06:53+08:00",
            "tags" : [ ],
            "secrecy_levels" : [ ],
            "stand_row_id" : null,

```

```
"stand_row_name" : null,
"quality_infos" : null,
"alias" : null,
"self_defined_fields" : null,
"code" : null,
"related_logic_attr_id" : null,
"related_logic_attr_name" : null,
"related_logic_attr_name_en" : null
}],
"mappings" : null,
"relations" : [ ],
"dw_type" : "CLICKHOUSE",
"dw_name" : null,
"l1" : null,
"l2" : null,
"l3" : null,
"l1_id" : null,
"l2_id" : null,
"l3_id" : "958408897973161984",
"partition_conf" : null,
"dlf_task_id" : null,
"use_recently_partition" : false,
"reversed" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"quality_owner" : null,
"quality_id" : null,
"distribute" : null,
"distribute_column" : null,
"is_partition" : false,
"physical_table" : "NO_NEED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "NO_NEED",
"business_asset" : "NO_NEED",
"meta_data_link" : "NO_NEED",
"data_quality" : "NO_NEED",
"summary_status" : "NO_NEED",
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "INVALID_TYPE",
"alias" : null,
"self_defined_fields" : null,
"code" : null,
"has_related_physical_table" : false,
"has_related_logic_table" : false
}],
"inheritances" : [ ],
"relations" : [ ]
}]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListTableModelRelationsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListTableModelRelationsRequest request = new ListTableModelRelationsRequest();
        request.withModelId("{model_id}");
        try {
            ListTableModelRelationsResponse response = client.listTableModelRelations(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

```
}  
}  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    # variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = ListTableModelRelationsRequest()  
        request.model_id = "{model_id}"  
        response = client.list_table_model_relations(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()
```

```
client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ListTableModelRelationsRequest{}
request.ModelId = "{model_id}"
response, err := client.ListTableModelRelations(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is RelationVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.8 Viewing Table Model Details

Function

This API is used to obtain model table details by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/table-model/{id}

Table 7-1377 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-1378 Query Parameters

Parameter	Mandatory	Type	Description
latest	No	Boolean	Indicates whether to query the latest.

Request Parameters

Table 7-1379 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1380 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1381 data

Parameter	Type	Description
value	TableModelVO object	value: unified outer data structure of the returned result.

Table 7-1382 TableModelVO

Parameter	Type	Description
id	String	ID, which is a string
model_id	String	ID of the relational model, which is a string
parent_table_id	String	Parent table ID, which is a string
parent_table_name	String	Parent table name, which is read-only.
parent_table_code	String	Parent table code, which is read-only.
related_logical_entity_id	String	ID of the associated logical entity, which is a string

Parameter	Type	Description
related_logic_table_name	String	Name of an associated logical entity.
related_logic_table_model_id	String	ID of the model associated with a logical entity, which is a string
related_logic_table_model_name	String	Name of the model associated with a logical entity.
model	WorkspaceVO object	Model information
data_format	String	Data Format,
obs_bucket	String	OBS bucket.
obs_location	String	Foreign Table Path
configs	String	Other configurations.
table_type	String	Table type, which is read-only.
owner	String	Person in charge.
tb_name	String	Table name.
dw_id	String	Data connection ID.
db_name	String	Indicates the database name.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.
extend_info	String	Indicates the extension information.
tb_guid	String	GUID after table materialization. This parameter is read-only.
tb_id	String	Data table ID. This parameter is read-only.
logic_tb_name	String	Name of a logical entity.
logic_tb_guid	String	GUID of a logical entity. This parameter is read-only.
description	String	Description.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
logic_tb_id	String	ID of a logical entity, which is a string
biz_catalog_id	String	ID of the business catalog, which is a string
catalog_path	String	Path of the home service category: {"l1Id":"","l2Id":"","l3Id":""}.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagRecordVO objects	Read-only table tags
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Parameter	Type	Description
attributes	Array of TableModelAttributeVO objects	Table attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
relations	Array of RelationVO objects	Relationship.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
partition_conf	String	Partition expression.
dfl_task_id	String	ID of a DLF job.

Parameter	Type	Description
use_recently_partition	Boolean	Indicates whether to use the latest partition.
reversed	Boolean	Indicates whether it is reverse.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
quality_owner	String	Quality owner.
quality_id	String	Quality ID, which is a string
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none"> HASH: Hashes specified columns and distributes data to specified DNs through mapping. REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
is_partition	Boolean	Indicates whether the table is a partition table. This parameter is read-only.
physical_table	String	Synchronization status. Options: <ul style="list-style-type: none"> NO_NEED: not synchronized CREATE_SUCCESS: The creation is successful. CREATE_FAILED: Creation failed UPDATE_SUCCESS: The update is successful. UPDATE_FAILED: The update fails. SUMMARY_SUCCESS: overall success SUMMARY_FAILED: overall failure RUNNING: overall running OFFLINE: offline

Parameter	Type	Description
dev_physical_table	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
meta_data_link	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
data_quality	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only

Parameter	Type	Description
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> INVALID_TYPE: invalid environment DEV_TYPE: development environment PROD_TYPE: production environment DEV_PROD_TYPE: development and production environment
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
code	String	Message
has_related_physical_table	Boolean	Indicates whether an associated physical table exists.
has_related_logical_table	Boolean	Indicates whether an associated logical entity exists.

Table 7-1383 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> SDI: source data layer DWI: data integration layer DWR: data reporting layer DM: data mart layer

Parameter	Type	Description
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Table 7-1384 TagRecordVO

Parameter	Type	Description
id	String	ID, which is a string
tag_id	String	Tag ID, which is a string
tag_name	String	Tag name.

Parameter	Type	Description
biz_id	String	Entity ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1385 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1386 TableModelAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
obs_location	String	OBS path, which is a subpath.
create_by	String	Creator.
update_by	String	Person who updates the information.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
is_foreign_key	Boolean	Indicates whether a key is a foreign key.
extend_field	Boolean	Indicates whether an attribute is inherited.
not_null	Boolean	Indicates whether the value is empty.

Parameter	Type	Description
ordinal	Integer	Sequence number.
table_model_id	String	ID of the relational model, which is a string
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagVO objects	Read-only table tags
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
code	String	Logical Attribute Code
related_logic_attr_id	String	ID of the associated logical attribute, which is a string
related_logic_attr_name	String	Associated Logical Entity Attribute Name (Zh)
related_logic_attr_name_en	String	Associated Logical Entity Attribute Name (En)

Table 7-1387 TagVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Label name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-1388 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1389 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1390 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1391 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.

Parameter	Type	Description
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-1392 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-1393 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-1394 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string

Parameter	Type	Description
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-1395 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-1396 RelationVO

Parameter	Type	Description
id	String	ID, which is a string
source_table_id	String	Source table ID, which is a string
target_table_id	String	Destination table ID, which is a string
name	String	Relationship name.
source_table_name	String	Name of the source table.
target_table_name	String	Name of the destination table.
role	String	Role.
tenant_id	String	Tenant ID.

Parameter	Type	Description
source_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
target_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
mappings	Array of RelationMappingVO objects	Table attribute information, which is read-only.

Table 7-1397 RelationMappingVO

Parameter	Type	Description
id	String	ID, which is a string
relation_id	String	Relationship ID, which is a string
source_field_id	String	Source field ID, which is a string
target_field_id	String	Destination field ID, which is a string
source_field_name	String	Name of the source table.
target_field_name	String	Name of the destination table.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1398 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400

Table 7-1399 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1400 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1401 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain model table details by ID.

```
GET https://{endpoint}/v2/{project_id}/design/table-model/1231932180633112576
```

Example Responses

Status code: 200

This operation is successful, and the returned data is TableModelVO details.

```
{
  "data" : {
    "value" : {
      "id" : "1231932180633112576",
      "model_id" : "1208730797675311104",
      "parent_table_id" : null,
      "parent_table_name" : null,
      "parent_table_code" : null,
      "related_logic_table_id" : null,
      "related_logic_table_name" : null,
      "related_logic_table_model_id" : null,
      "related_logic_table_model_name" : null,
      "model" : {
        "id" : "1208730797675311104",
        "name" : "xingneng2",
        "description" : "",
        "is_physical" : true,
        "frequent" : false,
        "top" : false,
        "level" : null,
        "dw_type" : "MRS_HIVE",
        "create_time" : "2024-02-18T11:04:39+08:00",
        "update_time" : "2024-02-18T11:04:39+08:00",
        "create_by" : "test_uesr",
        "update_by" : "test_uesr",
        "type" : "THIRD_NF",
        "biz_catalog_ids" : null,
        "databases" : null,
        "table_model_prefix" : ""
      },
      "data_format" : "Parquet",
      "obs_bucket" : null,
      "obs_location" : null,
      "configs" : "{}",
      "table_type" : "HIVE_TABLE",
      "owner" : "",
      "tb_name" : "test_update_table_model",
      "dw_id" : "0fafdd43a342436e87e42d7217d26679",
      "db_name" : null,
      "queue_name" : null,
      "schema" : null,
      "extend_info" : "{\"dirtyOutDatabase\":\"\",\"dirtyOutPrefix\":\"\",\"dirtyOutSuffix\":\"\",\"dirtyOutSwitch\":\"false\"}",
      "tb_guid" : null,
      "tb_id" : null,
      "logic_tb_name" : "test_update_table_model",

```

```
"logic_tb_guid" : null,
"description" : "N/A",
"status" : "DRAFT",
"logic_tb_id" : null,
"biz_catalog_id" : "958408897973161984",
"catalog_path" : "tesy",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"create_time" : "2024-04-22T11:38:40+08:00",
"update_time" : "2024-04-22T11:39:22+08:00",
"tags" : [ ],
"approval_info" : null,
"new_biz" : null,
"attributes" : [ {
  "id" : "1231932180754747392",
  "name_en" : "col_a",
  "name_ch" : "col_a",
  "description" : "",
  "obs_location" : null,
  "create_by" : null,
  "update_by" : null,
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
  "not_null" : false,
  "ordinal" : 1,
  "table_model_id" : null,
  "create_time" : "2024-04-22T11:38:40+08:00",
  "update_time" : "2024-04-22T11:39:23+08:00",
  "tags" : [ ],
  "secrecy_levels" : [ ],
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ ],
  "alias" : "",
  "self_defined_fields" : [ {
    "fd_name_ch" : "Sue",
    "fd_name_en" : "SDSDFD",
    "not_null" : false,
    "fd_value" : ""
  }, {
    "fd_name_ch" : "test",
    "fd_name_en" : "test",
    "not_null" : false,
    "fd_value" : ""
  } ],
  "code" : "",
  "related_logic_attr_id" : null,
  "related_logic_attr_name" : null,
  "related_logic_attr_name_en" : null
}, {
  "id" : "1231932180754747393",
  "name_en" : "col_b",
  "name_ch" : "col_b",
  "description" : "",
  "obs_location" : null,
  "create_by" : null,
  "update_by" : null,
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
```

```
"not_null" : false,
"ordinal" : 2,
"table_model_id" : null,
"create_time" : "2024-04-22T11:38:40+08:00",
"update_time" : "2024-04-22T11:39:23+08:00",
"tags" : [ ],
"secrecy_levels" : [ ],
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : [ ],
"alias" : "",
"self_defined_fields" : [ {
  "fd_name_ch" : "Sue",
  "fd_name_en" : "SDSDFD",
  "not_null" : false,
  "fd_value" : ""
}, {
  "fd_name_ch" : "test",
  "fd_name_en" : "test",
  "not_null" : false,
  "fd_value" : ""
} ],
"code" : "",
"related_logic_attr_id" : null,
"related_logic_attr_name" : null,
"related_logic_attr_name_en" : null
}],
"mappings" : null,
"relations" : [ ],
"dw_type" : "MRS_HIVE",
"dw_name" : "MRS_Hive",
"l1" : "tesy",
"l2" : null,
"l3" : null,
"l1_id" : "958408897973161984",
"l2_id" : null,
"l3_id" : null,
"partition_conf" : null,
"dlf_task_id" : null,
"use_recently_partition" : false,
"reversed" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
"quality_owner" : null,
"quality_id" : null,
"distribute" : null,
"distribute_column" : null,
"is_partition" : false,
"physical_table" : "NO_NEED",
"dev_physical_table" : "NO_NEED",
"technical_asset" : "NO_NEED",
"business_asset" : "NO_NEED",
"meta_data_link" : "NO_NEED",
"data_quality" : "NO_NEED",
"summary_status" : "NO_NEED",
"dev_version" : null,
"prod_version" : null,
"dev_version_name" : null,
"prod_version_name" : null,
"env_type" : "INVALID_TYPE",
"alias" : null,
"self_defined_fields" : null,
"code" : null,
"has_related_physical_table" : false,
"has_related_logic_table" : false
}
```

```
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowTableModelByIdSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```

```
        .build();
        ShowTableModelByIdRequest request = new ShowTableModelByIdRequest();
        request.withId("{id}");
        try {
            ShowTableModelByIdResponse response = client.showTableModelById(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowTableModelByIdRequest()
        request.id = "{id}"
        response = client.show_table_model_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)
```

```
func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowTableModelByIdRequest{}
    request.Id = "{id}"
    response, err := client.ShowTableModelById(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is TableModelVO details.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.9 Obtaining a Model

Function

This API is used to obtain information about all models in the current space.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/workspaces

Table 7-1402 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1403 Query Parameters

Parameter	Mandatory	Type	Description
workspace_type	No	String	Defines the enumeration of model workspace types. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
dw_type	No	String	Data Connection Type

Request Parameters

Table 7-1404 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-1405** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1406 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-1407 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of WorkspaceVO objects	WorkspaceVO information.

Table 7-1408 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-1409 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1410 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1411 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain information about all models in the current space.

GET https://{endpoint}/v2/{project_id}/design/workspaces

Example Responses

Status code: 200

This operation succeeds. The returned data is a WorkspaceVO array and the total number of data records.

```
{
  "data": {
    "value": {
      "records": [ {
        "id": "1014218815216717824",
        "name": "test",
        "description": "abc",
        "is_physical": true,
        "frequent": false,
        "top": true,
        "level": "SDI",
        "dw_type": "DWS",
        "create_time": "2022-08-30T17:03:28.822+08:00",
        "update_time": "2022-08-30T17:03:28.822+08:00",
        "create_by": "abc",
        "update_by": "abc",
        "type": "THIRD_NF",
        "biz_catalog_ids": null,
      }
    ]
  }
}
```

```
"databases" : null
  } ]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListWorkspacesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);
```

```
DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListWorkspacesRequest request = new ListWorkspacesRequest();
try {
    ListWorkspacesResponse response = client.listWorkspaces(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListWorkspacesRequest()
        response = client.list_workspaces(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
```

```
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build()  
    )  
  
    request := &model.ListWorkspacesRequest{}  
    response, err := client.ListWorkspaces(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds. The returned data is a WorkspaceVO array and the total number of data records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.10 Creating a Model Workspace

Function

Create a model workspace.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/workspaces

Table 7-1412 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1413 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1414 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name of the workspace.
description	No	String	Description.
is_physical	No	Boolean	Indicates whether a table is a physical table.
frequent	No	Boolean	Indicates whether it is commonly used.
top	No	Boolean	Hierarchical governance.
level	No	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	No	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Parameter	Mandatory	Type	Description
type	Yes	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	No	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	No	Array of strings	Array of database names.
table_model_prefix	No	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Response Parameters

Status code: 200

Table 7-1415 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1416 data

Parameter	Type	Description
value	WorkspaceVO object	value: unified outer data structure of the returned result.

Table 7-1417 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.

Parameter	Type	Description
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.

Parameter	Type	Description
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400**Table 7-1418** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1419** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1420** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Create a model workspace.

```
POST https://{endpoint}/v2/{project_id}/design/workspaces
{
  "name": "test_create_model",
  "table_model_prefix": "",
  "description": "this is a demo.",
  "type": "THIRD_NF",
  "frequent": false,
  "is_physical": "true",
  "dw_type": "DWS"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is WorkspaceVO.

```
{
  "data": {
    "value": {
      "id": "1231989920109842432",
      "name": "test_create_model",
      "description": "this is a demo.",
      "is_physical": true,
      "frequent": false,
      "top": true,
      "level": null,
      "dw_type": "DWS",
      "create_time": "2024-04-22T15:28:06.22+08:00",
      "update_time": "2024-04-22T15:28:06.22+08:00",
      "create_by": "test_uesr",
      "update_by": "test_uesr",
      "type": "THIRD_NF",
      "biz_catalog_ids": null,
      "databases": null,
      "table_model_prefix": ""
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a model workspace.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class CreateWorkspaceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        CreateWorkspaceRequest request = new CreateWorkspaceRequest();
        WorkspaceVO body = new WorkspaceVO();
        body.withTableModelPrefix("");
        body.withType(WorkspaceVO.TypeEnum.fromValue("THIRD_NF"));
        body.withDwType("DWS");
        body.withFrequent(false);
        body.withIsPhysical(true);
        body.withDescription("this is a demo.");
        body.withName("test_create_model");
        request.withBody(body);
        try {
            CreateWorkspaceResponse response = client.createWorkspace(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
        }
    }
}
```

```
        System.out.println(e.getStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Create a model workspace.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateWorkspaceRequest()
        request.body = WorkspaceVO(
            table_model_prefix="",
            type="THIRD_NF",
            dw_type="DWS",
            frequent=False,
            is_physical=True,
            description="this is a demo.",
            name="test_create_model"
        )
        response = client.create_workspace(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Create a model workspace.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)
```

```
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build())  
  
    request := &model.CreateWorkspaceRequest{}  
    tableModelPrefixWorkspaceVo:= ""  
    dwTypeWorkspaceVo:= "DWS"  
    frequentWorkspaceVo:= false  
    isPhysicalWorkspaceVo:= true  
    descriptionWorkspaceVo:= "this is a demo."  
    request.Body = &model.WorkspaceVo{  
        TableModelPrefix: &tableModelPrefixWorkspaceVo,  
        Type: model.GetWorkspaceVoTypeEnum().THIRD_NF,  
        DwType: &dwTypeWorkspaceVo,  
        Frequent: &frequentWorkspaceVo,  
        IsPhysical: &isPhysicalWorkspaceVo,  
        Description: &descriptionWorkspaceVo,  
        Name: "test_create_model",  
    }  
    response, err := client.CreateWorkspace(request)  
    if err == nil {  
        fmt.Printf("%v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is WorkspaceVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.11 Updating the Model Workspace

Function

Update the model workspace.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/workspaces

Table 7-1421 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1422 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1423 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name	Yes	String	Name of the workspace.
description	No	String	Description.
is_physical	No	Boolean	Indicates whether a table is a physical table.
frequent	No	Boolean	Indicates whether it is commonly used.
top	No	Boolean	Hierarchical governance.
level	No	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	No	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_by	No	String	Creator.
update_by	No	String	Person who updates the information.

Parameter	Mandatory	Type	Description
type	Yes	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	No	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	No	Array of strings	Array of database names.
table_model_prefix	No	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Response Parameters

Status code: 200

Table 7-1424 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1425 data

Parameter	Type	Description
value	WorkspaceVO object	value: unified outer data structure of the returned result.

Table 7-1426 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.

Parameter	Type	Description
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.

Parameter	Type	Description
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-1427 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1428 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1429 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Update the model workspace.

PUT `https://{endpoint}/v2/{project_id}/design/workspaces`

```
{
  "id": "1231989920109842432",
  "name": "test_update_model",
  "table_model_prefix": "",
  "description": "this is a demo.",
  "type": "THIRD_NF",
  "frequent": false,
  "is_physical": "true",
  "dw_type": "DWS"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is WorkspaceVO.

```
{
  "data": {
    "value": {
      "id": "1231989920109842432",
      "name": "test_update_model",
      "description": "this is a demo.",
      "is_physical": true,
      "frequent": false,
      "top": true,
      "level": null,
      "dw_type": "DWS",
      "create_time": "2024-04-22T15:28:06+08:00",
      "update_time": "2024-04-22T15:31:31.913+08:00",
      "create_by": "test_uesr",
      "update_by": "test_uesr",
      "type": "THIRD_NF",
      "biz_catalog_ids": null,
      "databases": null,
      "table_model_prefix": ""
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update the model workspace.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class UpdateWorkspaceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateWorkspaceRequest request = new UpdateWorkspaceRequest();
        WorkspaceVO body = new WorkspaceVO();
        body.withTableModelPrefix("");
        body.withType(WorkspaceVO.TypeEnum.fromValue("THIRD_NF"));
        body.withDwType("DWS");
        body.withFrequent(false);
        body.withIsPhysical(true);
        body.withDescription("this is a demo.");
        body.withName("test_update_model");
        body.withId("1231989920109842432");
        request.withBody(body);
        try {
            UpdateWorkspaceResponse response = client.updateWorkspace(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
        }
    }
}
```

```
e.printStackTrace();
System.out.println(e.getStatusCode());
System.out.println(e.getRequestId());
System.out.println(e.getErrorCode());
System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Update the model workspace.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateWorkspaceRequest()
        request.body = WorkspaceVO(
            table_model_prefix="",
            type="THIRD_NF",
            dw_type="DWS",
            frequent=False,
            is_physical=True,
            description="this is a demo.",
            name="test_update_model",
            id="1231989920109842432"
        )
        response = client.update_workspace(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Update the model workspace.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
```



```
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateWorkspaceRequest{}
    tableModelPrefixWorkspaceVo:= ""
    dwTypeWorkspaceVo:= "DWS"
    frequentWorkspaceVo:= false
    isPhysicalWorkspaceVo:= true
    descriptionWorkspaceVo:= "this is a demo."
    idWorkspaceVo:= "1231989920109842432"
    request.Body = &model.WorkspaceVo{
        TableModelPrefix: &tableModelPrefixWorkspaceVo,
        Type: model.GetWorkspaceVoTypeEnum().THIRD_NF,
        DwType: &dwTypeWorkspaceVo,
        Frequent: &frequentWorkspaceVo,
        IsPhysical: &isPhysicalWorkspaceVo,
        Description: &descriptionWorkspaceVo,
        Name: "test_update_model",
        Id: &idWorkspaceVo,
    }
    response, err := client.UpdateWorkspace(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is WorkspaceVO.
400	BadRequest

Status Code	Description
401	Unauthorized
403	Forbidden

7.21.12 Deleting a Model Workspace

Function

Deletes a model workspace.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/workspaces

Table 7-1430 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1431 Query Parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	Array of entity IDs, which is a string

Request Parameters

Table 7-1432 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-1433** Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-1434 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400**Table 7-1435** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1436** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1437** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to delete a model workspace by ID.

```
DELETE https://{endpoint}/v2/{project_id}/design/workspaces?ids=1231989920109842432
```

Example Responses

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class DeleteWorkspacesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
```

```
.withProjectId(projectId)
.withAk(ak)
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
DeleteWorkspacesRequest request = new DeleteWorkspacesRequest();
try {
    DeleteWorkspacesResponse response = client.deleteWorkspaces(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteWorkspacesRequest()
        response = client.delete_workspaces(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
```

```
"github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteWorkspacesRequest{}
    response, err := client.DeleteWorkspaces(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.13 Viewing Details About a Model

Function

This API is used to query the workspace details of a physical or logical model.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/workspaces/{model_id}

Table 7-1438 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
model_id	Yes	String	ID of the relational model, which is a string. The value of model_id can be obtained from the API used to obtain a model .

Request Parameters

Table 7-1439 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1440 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1441 data

Parameter	Type	Description
value	WorkspaceVO object	value: unified outer data structure of the returned result.

Table 7-1442 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.

Parameter	Type	Description
level	String	Data governance layers. Options: <ul style="list-style-type: none">• SDI: source data layer• DWI: data integration layer• DWR: data reporting layer• DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400

Table 7-1443 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1444** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1445** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query the workspace details of a physical or logical model.

```
GET https://{endpoint}/v2/{project_id}/design/workspaces/1208730797675311104
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is WorkspaceVO details.

```
{
  "data" : {
    "value" : {
      "id" : "1208730797675311104",
      "name" : "xingneng2",
      "description" : "",
      "is_physical" : true,
      "frequent" : false,
      "top" : false,
      "level" : null,
      "dw_type" : "MRS_HIVE",
      "create_time" : "2024-02-18T11:04:39+08:00",
      "update_time" : "2024-02-18T11:04:39+08:00",
      "create_by" : "test_uesr",
      "update_by" : "test_uesr",
      "type" : "THIRD_NF",
      "biz_catalog_ids" : null,
      "databases" : [ "bigdatatest" ],
      "table_model_prefix" : ""
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;
```

```
public class ShowWorkspaceDetailByIdSolution {
    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowWorkspaceDetailByIdRequest request = new ShowWorkspaceDetailByIdRequest();
        request.setModelId("{model_id}");
        try {
            ShowWorkspaceDetailByIdResponse response = client.showWorkspaceDetailById(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowWorkspaceDetailByIdRequest()
```

```
request.model_id = "{model_id}"
response = client.show_workspace_detail_by_id(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowWorkspaceDetailByIdRequest{}
    request.ModelId = "{model_id}"
    response, err := client.ShowWorkspaceDetailById(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is WorkspaceVO details.

Status Code	Description
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.14 Querying Destination Tables and Fields (To Be Offline)

Function

Query the destination table and fields (to be brought offline).

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/{model_id}/table-model/relation/fields

Table 7-1446 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
model_id	Yes	String	ID of the relational model, which is a string. The value of model_id can be obtained from the API used to obtain a model .

Table 7-1447 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].

Parameter	Mandatory	Type	Description
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-1448 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1449 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 400

Table 7-1450 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1451 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1452 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message

Parameter	Type	Description
data	Object	Returned data information.

Example Requests

None

Example Responses

Status code: 200

Success

```
{  
  "data" : {  
    "value" : [ "abc" ]  
  }  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
```

```
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchFieldsForRelationSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchFieldsForRelationRequest request = new SearchFieldsForRelationRequest();
        request.setModelId("{model_id}");
        try {
            SearchFieldsForRelationResponse response = client.searchFieldsForRelation(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
```

```
.build()

try:
    request = SearchFieldsForRelationRequest()
    request.model_id = "{model_id}"
    response = client.search_fields_for_relation(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.SearchFieldsForRelationRequest{}
    request.ModelId = "{model_id}"
    response, err := client.SearchFieldsForRelation(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.15 Exporting DDL Statements of Tables in a Model

Function

Exports DDL statements of a specified table based on the model ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/workspaces/{model_id}/export

Table 7-1453 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
model_id	Yes	String	ID of the relational model, which is a string. The value of model_id can be obtained from the API used to obtain a model .

Table 7-1454 Query Parameters

Parameter	Mandatory	Type	Description
tb_names	No	Array of strings	Name of the table to be exported.

Parameter	Mandatory	Type	Description
with_db	No	Boolean	The exported DDL package does not contain the database name.

Request Parameters

Table 7-1455 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1456 Response body parameters

Parameter	Type	Description
data	data object	Returned data information.

Table 7-1457 data

Parameter	Type	Description
value	String	DDL statement of the table exported from the API

Status code: 400**Table 7-1458** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1459** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1460 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Export the DDL of the class and trl_aSCb01c tables in the model whose ID is 1217123720355803136. The DDL contains the database name.

```
GET https://{endpoint}/v2/{project_id}/design/workspaces/1217123720355803136/export?with_db=true&tb_names=class&tb_names=trl_aSCb01c
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is DDL text information.

```
{
  "data" : {
    "value" : "CREATE TABLE IF NOT EXISTS ${database}.class (\n      class_id BIGINT NOT NULL comment '1111',\n      class_name VARCHAR(1024) NOT NULL comment '2222',\n      teacher VARCHAR(255) comment '3333'\n,\nPRIMARY KEY(class_id)\n);\nALTER TABLE ${database}.pd_test COMMENT 'None';\nCREATE TABLE IF NOT EXISTS ${database}.logic_{$A_2} (\n      id VARCHAR(255)\n);\nALTER TABLE ${database}.logic_{$A_2} COMMENT 'aaa';"
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```


SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ExportDesignModelTableDdlSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ExportDesignModelTableDdlRequest request = new ExportDesignModelTableDdlRequest();
        request.withModelId("{model_id}");
        try {
            ExportDesignModelTableDdlResponse response = client.exportDesignModelTableDdl(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *
```

```
if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ExportDesignModelTableDdlRequest()
        request.model_id = "{model_id}"
        response = client.export_design_model_table_ddl(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ExportDesignModelTableDdlRequest{}
    request.ModelId = "{model_id}"
    response, err := client.ExportDesignModelTableDdl(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

```
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is DDL text information.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.16 Converting a Logical Model to a Physical Model

Function

This API is used to convert a logical model to a physical model and displays information of the physical model.

Exception: If attributes of the target model such as **id** are **null**, call the following API for obtaining the operation result to obtain the error message: GET https://{endpoint}/v1/{project_id}/design/operation-results?operation_type=TRANSFORM_LOGIC_MODEL&operation_id={model_id}, where {model_id} is the path parameter of this API.

Constraints and limitations:

1. If **target_model_id** does not match **target_model_name**, the former takes precedence over the latter.
2. If **target_model_id** does not match **dw_type**, no model can be found and a message is displayed.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1/{project_id}/design/workspaces/{model_id}/transform

Table 7-1461 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
model_id	Yes	String	ID of the relational model, which is a string. The value of model_id can be obtained from the API used to obtain a model .

Request Parameters

Table 7-1462 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1463 Request body parameters

Parameter	Mandatory	Type	Description
target_model_id	No	String	ID of the target relational model, which is a string Note: If an existing target_model_name is used, this parameter is mandatory and its value must be the same as the existing model ID.
target_model_name	Yes	String	Name of the workspace.
description	No	String	Description.
update_existing_tables	No	Boolean	Indicates whether to update an existing table.
ids	No	Array of strings	List of the IDs of the logical entities to be materialized
dw_type	Yes	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
connection_id	No	String	ID of the data connection to which the converted physical table belongs.
database	No	String	Database to which the converted physical table belongs.
queue	No	String	Queue to which the converted physical table belongs (only for DLI).
schema	No	String	Schema to which the physical table belongs after conversion (only for DWS and PostgreSQL).

Response Parameters

Status code: 200

Table 7-1464 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1465 data

Parameter	Type	Description
value	WorkspaceVO object	value: unified outer data structure of the returned result.

Table 7-1466 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS, MRS_HIVE, POSTGRESQL, MRS_SPARK, CLICKHOUSE, MYSQL, ORACLE, or DORIS.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none">• THIRD_NF: relational modeling• DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Status code: 400**Table 7-1467** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1468 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1469** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Convert a logical model whose **model_id** is **1184439352260976640** to a physical model.

```
PUT https://{endpoint}/v1/{project_id}/design/workspaces/1184439352260976640/transform
```

```
{
  "target_model_id" : "1234524753512017920",
  "target_model_name" : "dws0429",
  "update_exist_tables" : false,
  "description" : "",
  "dw_type" : "DWS",
  "connection_id" : "92558783022c4ac88965e045b7c7078c",
  "database" : "gaussdb",
  "schema" : "public",
  "ids" : [ "1238437092523188266" ]
}
```

Example Responses

Status code: 200

The operation succeeds. The target physical **WorkspaceVO** is returned. The conversion result can be obtained from the API used to obtain the batch operation result.

```
{
  "data" : {
    "value" : {
```



```
"id" : "1234524753512017920",
"name" : "dws0429",
"description" : "",
"is_physical" : true,
"frequent" : false,
"top" : true,
"level" : null,
"dw_type" : "DWS",
"create_time" : "2024-04-29T15:20:38+08:00",
"update_time" : "2024-04-29T15:20:38+08:00",
"create_by" : "test_uesr",
"update_by" : "test_uesr",
"type" : "THIRD_NF",
"biz_catalog_ids" : null,
"databases" : null,
"table_model_prefix" : ""
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Convert a logical model whose **model_id** is **1184439352260976640** to a physical model.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;
```

```
import java.util.List;
import java.util.ArrayList;

public class BatchCreateDesignTableModelsFromLogicSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();

        BatchCreateDesignTableModelsFromLogicRequest request = new
        BatchCreateDesignTableModelsFromLogicRequest();
        request.withModelId("{model_id}");
        WorkspaceTransformVO body = new WorkspaceTransformVO();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1238437092523188266");
        body.withSchema("public");
        body.withDatabase("gaussdb");
        body.withConnectionId("92558783022c4ac88965e045b7c7078c");
        body.withDwType("DWS");
        body.withIds(listbodyIds);
        body.withUpdateExistTables(false);
        body.withDescription("");
        body.withTargetModelName("dws0429");
        body.withTargetModelId("1234524753512017920");
        request.withBody(body);
        try {
            BatchCreateDesignTableModelsFromLogicResponse response =
            client.batchCreateDesignTableModelsFromLogic(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Convert a logical model whose **model_id** is **1184439352260976640** to a physical model.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
```

```
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = BatchCreateDesignTableModelsFromLogicRequest()
        request.model_id = "{model_id}"
        listIdsbody = [
            "1238437092523188266"
        ]
        request.body = WorkspaceTransformVO(
            schema="public",
            database="gaussdb",
            connection_id="92558783022c4ac88965e045b7c7078c",
            dw_type="DWS",
            ids=listIdsbody,
            update_exist_tables=False,
            description="",
            target_model_name="dws0429",
            target_model_id="1234524753512017920"
        )
        response = client.batch_create_design_table_models_from_logic(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Convert a logical model whose **model_id** is **1184439352260976640** to a physical model.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"
```

```
auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.BatchCreateDesignTableModelsFromLogicRequest{}
request.ModelId = "{model_id}"
var listIdsbody = []string{
    "1238437092523188266",
}
schemaWorkspaceTransformVo:= "public"
databaseWorkspaceTransformVo:= "gaussdb"
connectionIdWorkspaceTransformVo:= "92558783022c4ac88965e045b7c7078c"
updateExistTablesWorkspaceTransformVo:= false
descriptionWorkspaceTransformVo:= ""
targetModelNameWorkspaceTransformVo:= "dws0429"
targetModelIdWorkspaceTransformVo:= "1234524753512017920"
request.Body = &model.WorkspaceTransformVo{
    Schema: &schemaWorkspaceTransformVo,
    Database: &databaseWorkspaceTransformVo,
    ConnectionId: &connectionIdWorkspaceTransformVo,
    DwType: "DWS",
    Ids: &listIdsbody,
    UpdateExistTables: &updateExistTablesWorkspaceTransformVo,
    Description: &descriptionWorkspaceTransformVo,
    TargetModelName: &targetModelNameWorkspaceTransformVo,
    TargetModelId: &targetModelIdWorkspaceTransformVo,
}
response, err := client.BatchCreateDesignTableModelsFromLogic(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds. The target physical WorkspaceVO is returned. The conversion result can be obtained from the API used to obtain the batch operation result.
400	BadRequest
401	Unauthorized
403	Forbidden

7.21.17 Obtaining the Operation Result

Function

This API is used to obtain the result of a batch operation, for example, converting a logical model to a physical model or reversing a database.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/design/operation-results

Table 7-1470 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1471 Query Parameters

Parameter	Mandatory	Type	Description
operation_type	Yes	String	Batch operation type. Enumerated values include: <ul style="list-style-type: none">• ER_REVERSE_DB: reversing a database for relational modeling• TRANSFORM_LOGIC_MODEL: converting a logical model to a physical model
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].

Parameter	Mandatory	Type	Description
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
operation_id	No	String	ID of the batch operation. For converting a logical model to a physical table, set this parameter to the model_id of the logical model. For reversing a database, set this parameter to the model_id of the target model. The value of model_id can be obtained from the API used to obtain a model .

Request Parameters

Table 7-1472 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1473 Response body parameters

Parameter	Type	Description
data	data object	Data, which is the unified outermost data structure of the returned result

Table 7-1474 data

Parameter	Type	Description
value	BatchOperationVO object	Value, which is the unified outer data structure of the returned result

Table 7-1475 BatchOperationVO

Parameter	Type	Description
id	String	Batch approval ID, which is a string
tenant_id	String	Project ID.
group_id	String	Group ID, which is a string
biz_name	String	Service name.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
operation_status	String	Operation result type enumeration. RUNNING(Running), SUCCESS(Operation succeeded), and FAILED(Operation failed). Options: <ul style="list-style-type: none">• RUNNING: The task is running.• SUCCESS: The operation is successful.• FAILED: The operation fails.
operation_type	String	Indicates the type.
biz_info	String	Service details.
create_by	String	Creator.
remark	String	Indicates the remark information.
total	Integer	Total number.
success	Integer	Number of successful operations.
failed	Integer	Indicates the number of failed operations.
rate	String	Indicates the current progress.
logs	String	Logs.
groups	Array of BatchOperationV O objects	Group information.

Status code: 400**Table 7-1476** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1477 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1478 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Obtain the result of converting a logical model whose **model_id** is **1184439352260976640** to a physical model.

```
GET https://{endpoint}/v1/{project_id}/design/operation-results?
operation_type=TRANSFORM_LOGIC_MODEL&operation_id=1184439352260976640
```

Example Responses

Status code: 200

The operation succeeds. **BatchOperationVO** is returned.

```
{
  "data" : {
    "value" : {
      "id" : null,
      "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-eeb055e69c624311b6b9cfee89a4ec70",
      "group_id" : "1243524510200836096",
      "biz_name" : null,
      "biz_id" : null,
      "operation_status" : "SUCCESS",
      "operation_type" : "TRANSFORM_LOGIC_MODEL",
      "biz_info" : null,
      "create_by" : "test_uesr",
      "remark" : null,
      "total" : 1,
      "success" : 1,
      "failed" : 0,
      "rate" : "1.00",
```

```
"logs" : null,
"groups" : [ {
  "id" : "1243524510620266496",
  "tenant_id" : "0833a5737480d53b2f25c010dc1a7b88-workspace-
eeb055e69c624311b6b9cfee89a4ec70",
  "group_id" : "1243524510200836096",
  "biz_name" : "ljst202",
  "biz_id" : null,
  "operation_status" : "SUCCESS",
  "operation_type" : "TRANSFORM_LOGIC_MODEL",
  "biz_info" : null,
  "create_by" : "test_uesr",
  "remark" : "SKIP | Skipped by users",
  "total" : 0,
  "success" : 0,
  "failed" : 0,
  "rate" : null,
  "logs" : null,
  "groups" : null
} ]
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;
```

```
public class ShowDesignOperationResultSolution {
    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowDesignOperationResultRequest request = new ShowDesignOperationResultRequest();
        try {
            ShowDesignOperationResultResponse response = client.showDesignOperationResult(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowDesignOperationResultRequest()
```

```
response = client.show_design_operation_result(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowDesignOperationResultRequest{}
    response, err := client.ShowDesignOperationResult(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds. BatchOperationVO is returned.
400	BadRequest

Status Code	Description
401	Unauthorized
403	Forbidden

7.22 Import and Export

7.22.1 Import models, relationship modeling, dimension modeling, code tables, service indicators, and process architecture.

Function

Import models, relationship modeling, dimension modeling, code tables, service indicators, and process architecture.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/models/action

Table 7-1479 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1480 Query Parameters

Parameter	Mandatory	Type	Description
action-id	Yes	String	<p>Action to be executed. Select an import action based on the imported object.</p> <p>Options:</p> <ul style="list-style-type: none"> • import_relation: Import a relationship model (logical entity/physical table). • import_dimension: imports dimension tables and fact tables. • import_codetable: import lookup table • import_datastandard: data import standard • import_bizmetric: imports service metrics. • import_bizcatalog: imports the BPA. • import_atomic: imports atomic metrics. • import_derivative: imports derivative indicators. • import_compound: Import a compound metric. • import_aggregation: Import the summary table.
model_id	No	String	ID of a relational modeling model. This parameter is mandatory when a model (import_relation) is imported.
directory_id	No	String	ID of the target directory. This parameter is optional and takes effect for importing a lookup table (import_datastandard) or data standard (import_datastandard).
skip-exist	No	Boolean	Indicates whether to overwrite the existing entity.

Request Parameters

Table 7-1481 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.
X-Language	No	String	Default value: en-us . This parameter is optional, but is mandatory for import and export APIs. Available options include zh-cn and en-us , indicating Chinese and English, respectively.

Table 7-1482 FormData parameters

Parameter	Mandatory	Type	Description
file	Yes	File	The size of the Excel file to be imported must be less than 4 MB, and the number of lines must be less than 3000.

Response Parameters

Status code: 200

Table 7-1483 Response body parameters

Parameter	Type	Description
data	data object	Returned data information.

Table 7-1484 data

Parameter	Type	Description
uuid	String	Unique ID returned by the import API

Status code: 400

Table 7-1485 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401

Table 7-1486 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 403

Table 7-1487 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Example Requests

Upload the model Excel file and submit it through the form. The file is a specific file.

```
POST https://{endpoint}/v2/{project_id}/design/models/action?action-id=import_relation&skip_exist=false&model_id=1208730797675311104
```

Example Responses

Status code: 200

Success. The returned data is the UUID of the import task. You can query the import result based on the UUID.

```
{
  "data" : {
    "uuid" : "82f70d35-f61a-46dc-a245-0b86905e82d1"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ImportModelsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);
```

```
DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ImportModelsRequest request = new ImportModelsRequest();
try {
    ImportModelsResponse response = client.importModels(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ImportModelsRequest()
        response = client.import_models(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
```

```

)
func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ImportModelsRequest{}
    response, err := client.ImportModels(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}

```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success. The returned data is the UUID of the import task. You can query the import result based on the UUID.
400	BadRequest
401	Unauthorized
403	Forbidden

7.22.2 Importing subjects

Function

Used to import themes.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/catalogs/action

Table 7-1488 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1489 Query Parameters

Parameter	Mandatory	Type	Description
action-id	Yes	LIST<STRING>	Action to be performed. Options: <ul style="list-style-type: none">• start-import: The import starts.
skip-exist	No	Boolean	Indicates whether to overwrite the existing theme.

Request Parameters

Table 7-1490 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1491 FormData parameters

Parameter	Mandatory	Type	Description
file	Yes	File	Excel file used for importing themes. The file size must be less than 4 MB and the number of lines must be less than 3000.

Response Parameters

Status code: 200

Table 7-1492 Response body parameters

Parameter	Type	Description
data	data object	Returned data information.

Table 7-1493 data

Parameter	Type	Description
uuid	String	Unique ID returned by the import API

Status code: 400**Table 7-1494** Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401**Table 7-1495** Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 403**Table 7-1496** Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Example Requests

Upload the theme Excel file and submit it through the form. The file is a specific Excel file.

```
POST https://{endpoint}/v2/{project_id}/design/catalogs/action?action-id=start-import&skip_exist=false
```

Example Responses

Status code: 200

Success. The returned data is the UUID of the import task. You can query the import result based on the UUID.

```
{
  "data" : {
    "uuid" : "82f70d35-f61a-46dc-a245-0b86905e82d1"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;
```

```
import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ImportCatalogsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ImportCatalogsRequest request = new ImportCatalogsRequest();
        try {
            ImportCatalogsResponse response = client.importCatalogs(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"
```

```
credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ImportCatalogsRequest()
    response = client.import_catalogs(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ImportCatalogsRequest{}
    response, err := client.ImportCatalogs(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success. The returned data is the UUID of the import task. You can query the import result based on the UUID.
400	BadRequest
401	Unauthorized
403	Forbidden

7.22.3 Querying the Import Result

Function

Query the processing result of importing the Excel file. The value of uuid is the result returned by the `/design/models/action` or `/design/catalogs/action` API.

Calling Method

For details, see [Calling APIs](#).

URI

GET `/v2/{project_id}/design/catalogs/process-import`

Table 7-1497 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1498 Query Parameters

Parameter	Mandatory	Type	Description
uuid	Yes	String	Processing result of an import to be queried.

Request Parameters

Table 7-1499 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-1500** Response body parameters

Parameter	Type	Description
data	DsProcessImportResultVO object	data: unified outermost data structure of the returned result.

Table 7-1501 DsProcessImportResultVO

Parameter	Type	Description
status	String	Unique value of the import, which is used to query the import result. Options: <ul style="list-style-type: none">importing: The file is being imported.fail: The import fails.success: The import is successful.
group	BatchOperationVO object	Group information.
rate	String	Indicates the current progress.

Table 7-1502 BatchOperationVO

Parameter	Type	Description
id	String	Batch approval ID, which is a string
tenant_id	String	Project ID.
group_id	String	Group ID, which is a string
biz_name	String	Service name.
biz_id	String	Business ID, which is a string
operation_status	String	Operation result type enumeration. RUNNING(Running), SUCCESS(Operation succeeded), and FAILED(Operation failed). Options: <ul style="list-style-type: none">RUNNING: The task is running.SUCCESS: The operation is successful.FAILED: The operation fails.
operation_type	String	Indicates the type.
biz_info	String	Service details.
create_by	String	Creator.
remark	String	Indicates the remark information.
total	Integer	Total number.
success	Integer	Number of successful operations.

Parameter	Type	Description
failed	Integer	Indicates the number of failed operations.
rate	String	Indicates the current progress.
logs	String	Logs.
groups	Array of BatchOperationVO objects	Group information.

Status code: 400**Table 7-1503** Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401**Table 7-1504** Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 403**Table 7-1505** Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Example Requests

Query the Excel import result based on the UUID.

```
GET https://{endpoint}/v2/{project_id}/design/catalogs/process-import?uuid=5a8b96cc-6ee1-429b-b6a9-b26b5f669218
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is DsProcessImportResultVO.

```
{
  "data": {
    "status": "success",
    "group": {
      "id": null,
      "tenant_id": "xxx",
      "group_id": "1014919548664713216",
      "biz_name": null,
      "biz_id": null,
      "operation_status": "SUCCESS",
      "operation_type": "IMPORT_CODETABLE",
      "biz_info": null,
      "create_by": "abc",
      "remark": null,
      "total": 2,
      "success": 2,
      "failed": 0,
      "rate": "1.00",
      "logs": null,
      "groups": [ {
        "id": "1014919548861845504",
        "tenant_id": "xxx",
        "group_id": "1014919548664713216",
        "biz_name": "test",
        "biz_id": null,
        "operation_status": "SUCCESS",
        "operation_type": "IMPORT_CODETABLE",
        "biz_info": "{\"op_name\":\"test\",\"op_number\":0}",
        "create_by": "abc",
        "remark": "SKIP",
        "total": 0,
        "success": 0,
        "failed": 0,
        "rate": null,
        "logs": null,
        "groups": null
      } ]
    },
    "rate": "1.00"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ImportResultSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
    }
}
```

```
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ImportResultRequest request = new ImportResultRequest();
try {
    ImportResultResponse response = client.importResult(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ImportResultRequest()
        response = client.import_result(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ImportResultRequest{}
    response, err := client.ImportResult(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is DsProcessImportResultVO.
400	BadRequest
401	Unauthorized
403	Forbidden

7.22.4 Exporting Service Data

Function

Export service data based on request parameters. The following data can be exported: code table, data standard, atomic metric, derivative metric, compound metric, summary table, service metric, theme, process, logical model, physical model, dimension, and fact table.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/export-model

Table 7-1506 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1507 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1508 Request body parameters

Parameter	Mandatory	Type	Description
ids	No	Array of strings	List of exported object IDs, for example, IDs of several logical models. The list is a string.
asyn	No	Boolean	Indicates whether to export data asynchronously. The options are true (asynchronous) and false (synchronous).

Parameter	Mandatory	Type	Description
type	No	String	Exported service type. The options are ER (relational modeling), Directory_CodeTable (code table directory), Directory_Standard (standard directory), DIM (dimension modeling), codeTable (code table), and dataStandard. directory_id is used to export code tables and data standards in a specified directory. model_id and biz_catalog_id are used to export specified models and service tables in a directory. import_bizcatalog is used to export the process architecture. import_bizmetric is used to export service indicators.
directory_id	No	String	Directory ID, which is a string
biz_catalog_id	No	String	ID of the service layer, which is a string
biz_catalog_id_list	No	Array of strings	ID list of the service catalog to which the service belongs.
model_id	No	String	ID of the relational model to which the model belongs. This parameter is required for exporting a relational model. The ID is a string.

Response Parameters

Status code: 200

Table 7-1509 Response body parameters

Parameter	Type	Description
data	data object	Returned data information.

Table 7-1510 data

Parameter	Type	Description
uuid	String	Unique ID returned by the import API

Status code: 400

Table 7-1511 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1512 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1513 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Export service data whose model ID is 1213499006739791872 and table IDs are 1226583503525818368 and 1217121407599800322 from the relational modeling.

```
POST https://{endpoint}/v2/{project_id}/design/export-model
```

```
{
  "asyn" : "true",
  "type" : "ER",
  "model_id" : "1213499006739791872",
  "ids" : [ "1226583503525818368", "1217121407599800322" ]
}
```

Example Responses

Status code: 200

Success

```
{
  "data" : {
    "uuid" : "fd653968-864b-45f6-9842-2b125d2dbfb7"
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Export service data whose model ID is 1213499006739791872 and table IDs are 1226583503525818368 and 1217121407599800322 from the relational modeling.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
```

```
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class ExportDesignModelsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ExportDesignModelsRequest request = new ExportDesignModelsRequest();
        ExportParam body = new ExportParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1226583503525818368");
        listbodyIds.add("1217121407599800322");
        body.setModelId("1213499006739791872");
        body.setType("ER");
        body.withAsyn(true);
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
            ExportDesignModelsResponse response = client.exportDesignModels(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Export service data whose model ID is 1213499006739791872 and table IDs are 1226583503525818368 and 1217121407599800322 from the relational modeling.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
```

```
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ExportDesignModelsRequest()
        listIdsbody = [
            "1226583503525818368",
            "1217121407599800322"
        ]
        request.body = ExportParam(
            model_id="1213499006739791872",
            type="ER",
            asyn=True,
            ids=listIdsbody
        )
        response = client.export_design_models(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Export service data whose model ID is 1213499006739791872 and table IDs are 1226583503525818368 and 1217121407599800322 from the relational modeling.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
```

```
Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ExportDesignModelsRequest{}
var listIdsbody = []string{
    "1226583503525818368",
    "1217121407599800322",
}
modelIdExportParam:= "1213499006739791872"
typeExportParam:= "ER"
asynExportParam:= true
request.Body = &model.ExportParam{
    ModelId: &modelIdExportParam,
    Type: &typeExportParam,
    Asyn: &asynExportParam,
    Ids: &listIdsbody,
}
response, err := client.ExportDesignModels(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden

7.22.5 Obtain the Excel export result.

Function

Obtain the Excel export result based on the UUID returned when the service data (/export-model) is exported.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/export-result

Table 7-1514 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1515 Query Parameters

Parameter	Mandatory	Type	Description
uuid	Yes	String	UUID returned when the export API is requested.

Request Parameters

Table 7-1516 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.

Parameter	Mandatory	Type	Description
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1517 Response body parameters

Parameter	Type	Description
data	data object	Export result object.

Table 7-1518 data

Parameter	Type	Description
status	String	Unique value of the export, which is used to query the import result. importing (exporting), fail (export failure), and success (export success). Options: <ul style="list-style-type: none"> importing: The data is being exported. fail: The export fails. success: The export is successful.
group	BatchOperationVO object	Group information, which can be ignored during export.
rate	String	Indicates the current progress.

Table 7-1519 BatchOperationVO

Parameter	Type	Description
id	String	Batch approval ID, which is a string
tenant_id	String	Project ID.

Parameter	Type	Description
group_id	String	Group ID, which is a string
biz_name	String	Service name.
biz_id	String	Business ID, which is a string
operation_status	String	Operation result type enumeration. RUNNING(Running), SUCCESS(Operation succeeded), and FAILED(Operation failed). Options: <ul style="list-style-type: none"> • RUNNING: The task is running. • SUCCESS: The operation is successful. • FAILED: The operation fails.
operation_type	String	Indicates the type.
biz_info	String	Service details.
create_by	String	Creator.
remark	String	Indicates the remark information.
total	Integer	Total number.
success	Integer	Number of successful operations.
failed	Integer	Indicates the number of failed operations.
rate	String	Indicates the current progress.
logs	String	Logs.
groups	Array of BatchOperationVO objects	Group information.

Status code: 400

Table 7-1520 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401

Table 7-1521 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 403**Table 7-1522** Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Example Requests

Query the export result based on uuid(fd653968-864b-45f6-9842-2b125d2dbfb7) returned by the /export-model API. The query result is the export status. After the export is complete, a binary file is returned.

```
GET https://{endpoint}/v2/{project_id}/design/export-result?uuid=fd653968-864b-45f6-9842-2b125d2dbfb7
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is DsProcessImportResultVO.

```
{
  "data" : {
    "status" : "importing",
    "group" : null,
    "rate" : "0"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ExportDesignResultSolution {
    public static void main(String[] args) {
```

```
// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ExportDesignResultRequest request = new ExportDesignResultRequest();
try {
    ExportDesignResultResponse response = client.exportDesignResult(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ExportDesignResultRequest()
        response = client.export_design_result(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
```

```
print(e.request_id)
print(e.error_code)
print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ExportDesignResultRequest{}
    response, err := client.ExportDesignResult(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is DsProcessImportResultVO.
400	BadRequest
401	Unauthorized

Status Code	Description
403	Forbidden

7.23 Customized Items

7.23.1 Querying Customized Items

Function

Query customized items (including table customized items, attribute customized items, theme customized items, and service indicator customized items).

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/customized-fields

Table 7-1523 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1524 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].

Parameter	Mandatory	Type	Description
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.
type	Yes	String	Type of a customized item. Options: <ul style="list-style-type: none"> • TABLE: table customized item • ATTRIBUTE: customized attribute item • SUBJECT: theme customization item • METRIC: service indicator customization item

Request Parameters

Table 7-1525 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1526 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1527 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-1528 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of CustomizedFields VO objects	CustomizedFieldsVO information.

Table 7-1529 CustomizedFieldsVO

Parameter	Type	Description
id	String	ID, which is a string
name_ch	String	Chinese name of a user-defined item.
name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
optional_values	String	Sorting order. Options: If there are multiple optional values, separate them with semicolons (;).
type	String	Type of a customized item. Options: <ul style="list-style-type: none">• TABLE: table customized item• ATTRIBUTE: customized attribute item• SUBJECT: theme customization item• METRIC: service indicator customization item
ordinal	Integer	System sorting field. You do not need to set this parameter when creating or modifying a record.
description	String	Description of a user-defined item.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-1530 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1531** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1532** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query customized items of a table.

```
GET https://{endpoint}/v2/{project_id}/design/customized-fields?type=TABLE
```

Example Responses

Status code: 200

This API is used to query customized items. The returned result is the CustomizedFieldsVO set.

```
{
  "data": {
    "value": {
      "total": 2,
      "records": [ {
        "id": "1209138753558437888",
        "name_ch": "aaa",
        "name_en": "aaa",
        "not_null": false,
        "optional_values": "",
        "type": "TABLE",
        "ordinal": 0,
        "description": "",
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "create_time": "2024-02-19T14:05:44+08:00",
        "update_time": "2024-03-14T15:23:50+08:00"
      }, {
        "id": "1209138753558437889",
        "name_ch": "bbb",
        "name_en": "bbb",
        "not_null": false,
        "optional_values": "",
        "type": "TABLE",
        "ordinal": 1,
        "description": "",
        "create_by": "test_uesr",
        "update_by": "test_uesr",
        "create_time": "2024-02-19T14:05:44+08:00",
        "update_time": "2024-03-14T15:23:50+08:00"
      }
    ]
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchCustomizedFieldsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchCustomizedFieldsRequest request = new SearchCustomizedFieldsRequest();
        try {
            SearchCustomizedFieldsResponse response = client.searchCustomizedFields(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = SearchCustomizedFieldsRequest()
    response = client.search_customized_fields(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.SearchCustomizedFieldsRequest{}
    response, err := client.SearchCustomizedFields(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This API is used to query customized items. The returned result is the CustomizedFieldsVO set.
400	BadRequest
401	Unauthorized
403	Forbidden

7.23.2 Modifying a Customized Item

Function

Modify customized items (including table customized items, attribute customized items, theme customized items, and service indicator customized items).

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/customized-fields

Table 7-1533 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1534 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1535 Request body parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Type of a customized item. Options: <ul style="list-style-type: none"> • TABLE: table customized item • ATTRIBUTE: customized attribute item • SUBJECT: theme customization item • METRIC: service indicator customization item
fields	No	Array of CustomizedFieldsVO objects	List of customized items.

Table 7-1536 CustomizedFieldsVO

Parameter	Mandatory	Type	Description
id	No	String	ID, which is a string
name_ch	Yes	String	Chinese name of a user-defined item.
name_en	Yes	String	English name of a customized item.
not_null	Yes	Boolean	Whether a parameter is mandatory.
optional_values	No	String	Sorting order. Options: If there are multiple optional values, separate them with semicolons (;).
type	Yes	String	Type of a customized item. Options: <ul style="list-style-type: none"> • TABLE: table customized item • ATTRIBUTE: customized attribute item • SUBJECT: theme customization item • METRIC: service indicator customization item

Parameter	Mandatory	Type	Description
ordinal	No	Integer	System sorting field. You do not need to set this parameter when creating or modifying a record.
description	No	String	Description of a user-defined item.

Response Parameters

Status code: 200

Table 7-1537 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1538 data

Parameter	Type	Description
value	Array of CustomizedFieldsVO objects	Data connection information array

Table 7-1539 CustomizedFieldsVO

Parameter	Type	Description
id	String	ID, which is a string
name_ch	String	Chinese name of a user-defined item.
name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
optional_values	String	Sorting order. Options: If there are multiple optional values, separate them with semicolons (;).

Parameter	Type	Description
type	String	Type of a customized item. Options: <ul style="list-style-type: none"> • TABLE: table customized item • ATTRIBUTE: customized attribute item • SUBJECT: theme customization item • METRIC: service indicator customization item
ordinal	Integer	System sorting field. You do not need to set this parameter when creating or modifying a record.
description	String	Description of a user-defined item.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 7-1540 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1541 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1542 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to modify a customized item of a table.

PUT https://{endpoint}/v2/{project_id}/design/customized-fields

```
{
  "type": "TABLE",
  "fields": [ {
    "id": "1211611269321355264",
    "name_ch": "User-defined item 1",
    "name_en": "selfDefine1",
    "not_null": false,
    "optional_values": "",
    "description": "Test 1",
    "ordinal": 0,
    "type": "TABLE"
  }, {
    "id": "1211611269321355265",
    "name_ch": "User-defined item 2",
    "name_en": "selfDefine2",
    "not_null": true,
    "optional_values": "",
    "description": "Modification 2",
    "ordinal": 1,
    "type": "TABLE"
  }
  ]
}
```

Example Responses

Status code: 200

Success

```
{
  "data": {
    "value": [ {
      "id": "1211611269321355264",
      "name_ch": "User-defined item 1",
      "name_en": "selfDefine1",
      "not_null": false,
      "optional_values": "",
      "type": "TABLE",
      "ordinal": 0,
      "description": "Test 1",
      "create_by": null,
      "update_by": null,
      "create_time": null,
      "update_time": null
    }, {
      "id": "1211611269321355265",
      "name_ch": "User-defined item 2",
      "name_en": "selfDefine2",
      "not_null": true,
      "optional_values": "",
      "type": "TABLE",
      "ordinal": 1,
      "description": "Modification 2",
      "create_by": null,
      "update_by": null,
      "create_time": null,
      "update_time": null
    }
  ]
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API is used to modify a customized item of a table.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class ModifyCustomizedFieldsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ModifyCustomizedFieldsRequest request = new ModifyCustomizedFieldsRequest();
        CustomizedFieldsVOList body = new CustomizedFieldsVOList();
        List<CustomizedFieldsVO> listbodyFields = new ArrayList<>();
        listbodyFields.add(
            new CustomizedFieldsVO()
                .withId("1211611269321355264")
                .withNameCh("User-defined item 1")
                .withNameEn("selfDefine1")
                .withNotNull(false)
                .withOptionalValues("")
                .withType(CustomizedFieldsVO.TypeEnum.fromValue("TABLE"))
                .withOrdinal(0)
                .withDescription("Test 1")
        );
        listbodyFields.add(
            new CustomizedFieldsVO()
                .withId("1211611269321355265")
                .withNameCh("User-defined item 2")
                .withNameEn("selfDefine2")
                .withNotNull(true)
                .withOptionalValues("")
                .withType(CustomizedFieldsVO.TypeEnum.fromValue("TABLE"))
                .withOrdinal(1)
                .withDescription("Modification 2")
        );
        body.withFields(listbodyFields);
        body.withType(CustomizedFieldsVOList.TypeEnum.fromValue("TABLE"));
        request.withBody(body);
        try {
            ModifyCustomizedFieldsResponse response = client.modifyCustomizedFields(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
```

```
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

This API is used to modify a customized item of a table.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ModifyCustomizedFieldsRequest()
        listFieldsbody = [
            CustomizedFieldsVO(
                id="1211611269321355264",
                name_ch="User-defined item 1",
                name_en="selfDefine1",
                not_null=False,
                optional_values="",
                type="TABLE",
                ordinal=0,
                description="Test 1"
            ),
            CustomizedFieldsVO(
                id="1211611269321355265",
                name_ch="User-defined item 2",
                name_en="selfDefine2",
                not_null=True,
                optional_values="",
                type="TABLE",
                ordinal=1,
                description="Modification 2"
            )
        ]
        request.body = CustomizedFieldsVOList(
            fields=listFieldsbody,
            type="TABLE"
        )
        response = client.modify_customized_fields(request)
```

```
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

This API is used to modify a customized item of a table.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ModifyCustomizedFieldsRequest{
        idFields:= "1211611269321355264"
        optionalValuesFields:= ""
        ordinalFields:= int32(0)
        descriptionFields:= "Test 1"
        idFields1:= "1211611269321355265"
        optionalValuesFields1:= ""
        ordinalFields1:= int32(1)
        descriptionFields1:= "Modification 2"
        var listFieldsbody = []model.CustomizedFieldsVo{
            {
                Id: &idFields,
                NameCh: "User-defined item 1",
                NameEn: "selfDefine1",
                NotNull: false,
                OptionalValues: &optionalValuesFields,
                Type: model.GetCustomizedFieldsVoTypeEnum().TABLE,
                Ordinal: &ordinalFields,
                Description: &descriptionFields,
            },
            {
                Id: &idFields1,
                NameCh: "User-defined item 2",
                NameEn: "selfDefine2",
                NotNull: true,
                OptionalValues: &optionalValuesFields1,
```

```
        Type: model.GetCustomizedFieldsVoTypeEnum().TABLE,
        Ordinal: &ordinalFields1,
        Description: &descriptionFields1,
    },
}
request.Body = &model.CustomizedFieldsVoList{
    Fields: &listFieldsbody,
    Type: model.GetCustomizedFieldsVoListTypeEnum().TABLE,
}
response, err := client.ModifyCustomizedFields(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
401	Unauthorized
403	Forbidden

7.24 Quality Rules

7.24.1 Update the abnormal data output configuration of the table.

Function

Update the abnormal data output configuration of the table, including whether to generate abnormal data, setting the abnormal data database or schema, and setting the prefix or suffix of the abnormal table.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/{table_id}/qualities

Table 7-1543 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
table_id	Yes	String	Table ID, which is a string

Request Parameters

Table 7-1544 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1545 Request body parameters

Parameter	Mandatory	Type	Description
biz_type	No	String	Type of a table. Options: <ul style="list-style-type: none">• TABLE_MODEL: relationship model (logical model/physical model)• AGGREGATION_LOGIC_TABLE: summary table• FACT_LOGIC_TABLE: fact table• DIMENSION: dimension• DIMENSION_LOGIC_TABLE: dimension table
dirty_out_switch	No	Boolean	Indicates whether to output abnormal data.
dirty_out_database	No	String	Abnormal data output library.
dirty_out_prefix	No	String	Prefix of an exception table.
dirty_out_suffix	No	String	Suffix of an exception table.

Response Parameters

Status code: 200

Table 7-1546 Response body parameters

Parameter	Type	Description
data	data object	Returned data for updating the abnormal data output configuration of a table.

Table 7-1547 data

Parameter	Type	Description
value	TableModelVO object	Details about a table.

Table 7-1548 TableModelVO

Parameter	Type	Description
id	String	ID, which is a string
model_id	String	ID of the relational model, which is a string
parent_table_id	String	Parent table ID, which is a string
parent_table_name	String	Parent table name, which is read-only.
parent_table_code	String	Parent table code, which is read-only.
related_logic_table_id	String	ID of the associated logical entity, which is a string
related_logic_table_name	String	Name of an associated logical entity.
related_logic_table_model_id	String	ID of the model associated with a logical entity, which is a string
related_logic_table_model_name	String	Name of the model associated with a logical entity.
model	WorkspaceVO object	Model information
data_format	String	Data Format,
obs_bucket	String	OBS bucket.
obs_location	String	Foreign Table Path
configs	String	Other configurations.
table_type	String	Table type, which is read-only.
owner	String	Person in charge.
tb_name	String	Table name.
dw_id	String	Data connection ID.
db_name	String	Indicates the database name.
queue_name	String	Queue required for executing SQL statements through the DLI data connection. This parameter is mandatory when the data connection type is DLI.
schema	String	Required by the DWS type.
extend_info	String	Indicates the extension information.

Parameter	Type	Description
tb_guid	String	GUID after table materialization. This parameter is read-only.
tb_id	String	Data table ID. This parameter is read-only.
logic_tb_name	String	Name of a logical entity.
logic_tb_guid	String	GUID of a logical entity. This parameter is read-only.
description	String	Description.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
logic_tb_id	String	ID of a logical entity, which is a string
biz_catalog_id	String	ID of the business catalog, which is a string
catalog_path	String	Path of the home service category: {"l1Id":"","l2Id":"","l3Id":""}.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
tags	Array of TagRecordVO objects	Read-only table tags
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
attributes	Array of TableModelAttributeVO objects	Table attribute information.
mappings	Array of TableMappingVO objects	Table mapping information.
relations	Array of RelationVO objects	Relationship.
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
dw_name	String	Data connection name. This parameter is read-only and does not need to be set when you create or update a data connection.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.

Parameter	Type	Description
l1_id	String	Subject area group ID, which is a read-only string
l2_id	String	Subject area ID. This parameter is read-only and does not need to be set during creation and update.
l3_id	String	Business object ID, which is a read-only string
partition_conf	String	Partition expression.
dlf_task_id	String	ID of a DLF job.
use_recently_partition	Boolean	Indicates whether to use the latest partition.
reversed	Boolean	Indicates whether it is reverse.
dirty_out_switch	Boolean	Indicates whether to output abnormal data.
dirty_out_database	String	Abnormal data output library.
dirty_out_prefix	String	Prefix of an exception table.
dirty_out_suffix	String	Suffix of an exception table.
quality_owner	String	Quality owner.
quality_id	String	Quality ID, which is a string
distribute	String	DISTRIBUTE BY [HASH(column) REPLICATION]. Options: <ul style="list-style-type: none">• HASH: Hashes specified columns and distributes data to specified DNs through mapping.• REPLICATION: Each row in the table exists on all DNs, that is, each DN has complete table data.
distribute_column	String	DISTRIBUTE BY HASH column.
is_partition	Boolean	Indicates whether the table is a partition table. This parameter is read-only.

Parameter	Type	Description
physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_physical_table	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
technical_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline
business_asset	String	Synchronization status. Options: <ul style="list-style-type: none">• NO_NEED: not synchronized• CREATE_SUCCESS: The creation is successful.• CREATE_FAILED: Creation failed• UPDATE_SUCCESS: The update is successful.• UPDATE_FAILED: The update fails.• SUMMARY_SUCCESS: overall success• SUMMARY_FAILED: overall failure• RUNNING: overall running• OFFLINE: offline

Parameter	Type	Description
meta_data_link	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
data_quality	String	<p>Synchronization status.</p> <p>Options:</p> <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline

Parameter	Type	Description
summary_status	String	Synchronization status. Options: <ul style="list-style-type: none"> • NO_NEED: not synchronized • CREATE_SUCCESS: The creation is successful. • CREATE_FAILED: Creation failed • UPDATE_SUCCESS: The update is successful. • UPDATE_FAILED: The update fails. • SUMMARY_SUCCESS: overall success • SUMMARY_FAILED: overall failure • RUNNING: overall running • OFFLINE: offline
dev_version	String	Development environment version, which is a read-only string
prod_version	String	Production environment version, which is a read-only string
dev_version_name	String	Version name of the development environment, which is read-only
prod_version_name	String	Version name of the production environment, which is read-only
env_type	String	Type of the development and production environment. Options: <ul style="list-style-type: none"> • INVALID_TYPE: invalid environment • DEV_TYPE: development environment • PROD_TYPE: production environment • DEV_PROD_TYPE: development and production environment
alias	String	Alias
self_defined_fields	Array of SelfDefinedField-VO objects	User-defined item.
code	String	Message
has_related_physical_table	Boolean	Indicates whether an associated physical table exists.

Parameter	Type	Description
has_related_logic_table	Boolean	Indicates whether an associated logical entity exists.

Table 7-1549 WorkspaceVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name of the workspace.
description	String	Description.
is_physical	Boolean	Indicates whether a table is a physical table.
frequent	Boolean	Indicates whether it is commonly used.
top	Boolean	Hierarchical governance.
level	String	Data governance layers. Options: <ul style="list-style-type: none"> • SDI: source data layer • DWI: data integration layer • DWR: data reporting layer • DM: data mart layer
dw_type	String	Data connection type, which corresponds to the type of the data warehouse where the table is located. The value can be DWS , MRS_HIVE , POSTGRESQL , MRS_SPARK , CLICKHOUSE , MYSQL , ORACLE , or DORIS .
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
type	String	Defines the workspace type enumeration. Options: <ul style="list-style-type: none"> • THIRD_NF: relational modeling • DIMENSION: dimensional modeling
biz_catalog_ids	String	{"l1Ids":[],"l2Ids":[],"l3Ids":[]}: ID list of associated service catalogs.
databases	Array of strings	Array of database names.
table_model_prefix	String	Model verification prefix. The value contains a maximum of 100 characters, including digits, letters, and underscores (_), and starts with a letter.

Table 7-1550 TagRecordVO

Parameter	Type	Description
id	String	ID, which is a string
tag_id	String	Tag ID, which is a string
tag_name	String	Tag name.
biz_id	String	Entity ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1551 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1552 TableModelAttributeVO

Parameter	Type	Description
id	String	ID, which is a string
name_en	String	Field name.
name_ch	String	Service attribute.
description	String	Description.
obs_location	String	OBS path, which is a subpath.
create_by	String	Creator.
update_by	String	Person who updates the information.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_primary_key	Boolean	Indicates whether a key is a primary key.
is_partition_key	Boolean	Indicates whether the key is a partition key.
is_foreign_key	Boolean	Indicates whether a key is a foreign key.
extend_field	Boolean	Indicates whether an attribute is inherited.
not_null	Boolean	Indicates whether the value is empty.

Parameter	Type	Description
ordinal	Integer	Sequence number.
table_model_id	String	ID of the relational model, which is a string
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
tags	Array of TagVO objects	Read-only table tags
secrecy_levels	Array of SecrecyLevelVO objects	Confidentiality
stand_row_id	String	ID of the associated data standard, which is a string
stand_row_name	String	Name of the associated data standard. This parameter is read-only.
quality_infos	Array of QualityInfoVO objects	Quality information, which is read-only.
alias	String	Alias
self_defined_fields	Array of SelfDefinedFieldVO objects	User-defined item.
code	String	Logical Attribute Code
related_logic_attr_id	String	ID of the associated logical attribute, which is a string
related_logic_attr_name	String	Associated Logical Entity Attribute Name (Zh)
related_logic_attr_name_en	String	Associated Logical Entity Attribute Name (En)

Table 7-1553 TagVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Label name
description	String	Description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.

Table 7-1554 SecrecyLevelVO

Parameter	Type	Description
id	String	Security level ID, which is a string
uuid	String	Data security primary key.
name	String	Confidentiality name.
slevel	Integer	Confidentiality level.
description	String	Confidentiality description.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.

Table 7-1555 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none">• INFO_ARCH: information architecture (used for modifying themes in batches)• MODEL: model• QUALITY_RULE: quality rule• SECRECY_LEVEL: security level• STANDARD_ELEMENT: data standard• STANDARD_ELEMENT_TEMPLATE: data standard template• SUBJECT: theme• Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables• SUMMARY_INDEX: summary table indicator attribute• SUMMARY_TIME: time period attribute of the SDR table• TABLE_MODEL: relationship model (logical model/physical model)• TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model)• TABLE_MODEL_LOGIC: logical entity• TABLE_TYPE: table type• TAG: tag• TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1556 QualityInfoVO

Parameter	Type	Description
id	String	ID, which is a string
table_id	String	Table ID, which is a read-only string
attr_id	String	Attribute ID, which is a read-only string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
data_quality_id	String	Quality ID, which is a string
show_control	Integer	Indicates whether to display the regular expression.
data_quality_name	String	Quality name.
alert_conf	String	Configure alarms.
expression	String	Regular expression configuration in regular expression-related validation rules.
extend_info	String	Indicates the extension information.
from_standard	Boolean	Indicates whether the data comes from the data standard quality configuration. This parameter is read-only.

Parameter	Type	Description
result_description	String	Result description.
create_by	String	Creator, which is read-only.
update_by	String	Updater, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1557 TableMappingVO

Parameter	Type	Description
id	String	ID, which is a string
name	String	Name.
description	String	Description.
target_table_id	String	Destination table ID, which is a string
src_model_id	String	ID of the relational model for the source table. The value is a string.
src_model_name	String	Source model name.
view_text	String	Source of the collected view. The dws view is used reversely.
target_table_name	String	Name of the destination table.
details	Array of TableMappingDetailVO objects	Details.
source_tables	Array of MappingSourceTableVO objects	Mapped table information.
source_fields	Array of MappingSourceFieldVO objects	Mapped field information.

Parameter	Type	Description
create_time	String	Creation time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.

Table 7-1558 TableMappingDetailVO

Parameter	Type	Description
id	String	ID, which is a string
mapping_id	String	Name.
target_attr_id	String	ID of the destination attribute, which is a string
target_attr_name	String	Sort by destination field.
src_table_ids	String	Source table ID.
src_table_names	Array of strings	Source table name array, which is read-only.
src_table_db_names	Array of strings	Database name array of the source table. This parameter is read-only.
src_table_model_ids	Array of strings	IDs of the relational models for the source tables. The value is a read-only string.
src_table_id_list	Array of strings	IDs of source tables. The value is a read-only string.
src_attr_ids	String	ID of a field in the source table.
src_attr_names	Array of strings	Array of field names in the source table. This parameter is read-only.
src_attr_id_list	Array of strings	IDs of the source table attributes. The value is a read-only string.
remark	String	Description.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
create_by	String	Creator.
update_by	String	Person who updates the information.
target_attr	Object	Target attribute.

Table 7-1559 MappingSourceTableVO

Parameter	Type	Description
table1_id	String	Table 1 ID, which is a string
table2_id	String	Table 2 ID, which is a string
table1_name	String	Name of table 1.
table2_name	String	Name of table 2.
join_type	String	Association type. Options: <ul style="list-style-type: none">• LEFT: left outer join• RIGHT: right outer join• INNER: inner join• FULL: full connection
join_fields	Array of MappingJoinFieldVO objects	on condition.

Table 7-1560 MappingJoinFieldVO

Parameter	Type	Description
field1_id	String	Attribute 1 ID, which is a string
field2_id	String	Attribute 2 ID, which is a string

Parameter	Type	Description
field1_name	String	Name of attribute 1.
field2_name	String	Name of attribute 2.

Table 7-1561 MappingSourceFieldVO

Parameter	Type	Description
target_field_id	String	ID of the target field, which is a field in the current table. The ID is a string.
target_field_name	String	Target field code.
field_ids	String	Source field ID. Use commas (,) to separate multiple IDs.
transform_expression	String	Conversion expression.
field_names	Array of strings	List of source field names.
changed	Boolean	Indicates whether a field is changed.

Table 7-1562 RelationVO

Parameter	Type	Description
id	String	ID, which is a string
source_table_id	String	Source table ID, which is a string
target_table_id	String	Destination table ID, which is a string
name	String	Relationship name.
source_table_name	String	Name of the source table.
target_table_name	String	Name of the destination table.
role	String	Role.
tenant_id	String	Tenant ID.

Parameter	Type	Description
source_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
target_type	String	Relationship type, which is read-only. Options: <ul style="list-style-type: none"> • ONE: Each child (parent) logical entity has only one record in the parent (child) logical entity. • ZERO_OR_ONE: indicates that each child (parent) logical entity data record corresponds to only one data record in the parent (child) logical entity. • ZERO_OR_N: indicates that each child (parent) logical entity data record may correspond to multiple data records in the parent (child) logical entity. • ONE_OR_N: Each child (parent) logical entity corresponds to at least one data record in the parent (child) logical entity.
create_by	String	Creator.
update_by	String	Person who updates the information.

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
mappings	Array of RelationMappingVO objects	Table attribute information, which is read-only.

Table 7-1563 RelationMappingVO

Parameter	Type	Description
id	String	ID, which is a string
relation_id	String	Relationship ID, which is a string
source_field_id	String	Source field ID, which is a string
target_field_id	String	Destination field ID, which is a string
source_field_name	String	Name of the source table.
target_field_name	String	Name of the destination table.
create_by	String	Creator.
update_by	String	Person who updates the information.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1564 SelfDefinedFieldVO

Parameter	Type	Description
fd_name_ch	String	Chinese name of a user-defined item.
fd_name_en	String	English name of a customized item.
not_null	Boolean	Whether a parameter is mandatory.
fd_value	String	Attribute value

Status code: 400**Table 7-1565** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1566** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1567** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Updates table-level quality rules based on request body parameters.

```
PUT https://{endpoint}/v2/{project_id}/design/1217123755210469376/qualities
```

```
{
  "biz_type": "TABLE_MODEL",
  "dirty_out_switch": true,
  "dirty_out_database": "default",
  "dirty_out_prefix": "err_",
  "dirty_out_suffix": "_2020_02_28"
}
```

Example Responses

Status code: 200

This operation succeeds, and all information about the updated table is returned.

```
{
  "data": {
    "value": {
      "id": "1217123755210469376",
      "model_id": "873242752312385536",
      "parent_table_id": null,
      "parent_table_name": null,
      "parent_table_code": null,
      "model": {
        "name": "test",
        "type": "THIRD_NF"
      },
      "data_format": "Parquet",
      "obs_bucket": null,
      "obs_location": null,
      "configs": "{}",
      "table_type": "MANAGED",
      "owner": "",
      "tb_name": "staff_info",
      "dw_id": "2c9080f07b03db8d017b198a4a20002f",
      "db_name": "ctz_test",
      "queue_name": "default",
      "schema": "",
      "extend_info": "{\"dirtyOutDatabase\":\"\",\"dirtyOutPrefix\":\"\",\"dirtyOutSuffix\":\"\",\"dirtyOutSwitch\":\"false\"}",
      "tb_guid": null,
      "tb_id": "NativeTable-2c9080f07b03db8d017b198a4a20002f-ctz_test-staff_info",
      "logic_tb_name": "staff_info",
      "logic_tb_guid": "1ab1a58b-9412-4901-bb80-4ccaaa0580e4",
      "description": "None",
      "status": "PUBLISHED",
      "logic_tb_id": null,
      "biz_catalog_id": "1012306178602041344",
      "catalog_path": "Factory/Personnel management/Personnel archive",
      "create_by": "abc",
      "update_by": "abc",
      "create_time": "2022-08-25T10:55:00+08:00",
      "update_time": "2022-08-25T10:55:45+08:00",
    }
  }
}
```

```
"approval_info": {
  "id": "1012314318533988352",
  "tenant_id": null,
  "name_ch": null,
  "name_en": null,
  "biz_id": "1012314146584301568",
  "biz_type": null,
  "biz_info": null,
  "biz_info_obj": null,
  "biz_version": 0,
  "biz_status": "PUBLISHED",
  "approval_status": "APPROVED",
  "approval_type": null,
  "submit_time": "2022-08-25T10:55:41+08:00",
  "create_by": null,
  "l1": null,
  "l2": null,
  "l3": null,
  "approval_time": "2022-08-25T10:55:41+08:00",
  "approver": "abc",
  "email": null,
  "msg": "Fast Approval OK.",
  "directory_path": null
},
"new_biz": null,
"attributes": [ {
  "id": "1012314146626244608",
  "name_en": "id",
  "name_ch": "Primary Key",
  "description": "",
  "obs_location": null,
  "create_by": "abc",
  "update_by": "abc",
  "data_type": "STRING",
  "domain_type": "STRING",
  "data_type_extend": "",
  "is_primary_key": true,
  "is_partition_key": false,
  "is_foreign_key": false,
  "extend_field": false,
  "not_null": true,
  "ordinal": 1,
  "table_model_id": null,
  "create_time": "2022-08-25T10:55:00+08:00",
  "update_time": "2022-08-25T10:55:00+08:00",
  "tags": [ {
    "name": 123
  } ],
  "stand_row_id": null,
  "stand_row_name": null,
  "quality_infos": [ {
    "data_quality_id": 3
  } ],
  "alias": "",
  "self_defined_fields": [ ]
}, {
  "id": "1012314146626244609",
  "name_en": "name",
  "name_ch": "Name",
  "description": "",
  "obs_location": null,
  "create_by": "abc",
  "update_by": "abc",
  "data_type": "STRING",
  "domain_type": "STRING",
  "data_type_extend": "",
  "is_primary_key": false,
  "is_partition_key": false,
  "is_foreign_key": false,
```

```
"extend_field" : false,
"not_null" : false,
"ordinal" : 2,
"table_model_id" : null,
"create_time" : "2022-08-25T10:55:00+08:00",
"update_time" : "2022-08-25T10:55:00+08:00",
"tags" : [ {
  "name" : 123
} ],
"stand_row_id" : null,
"stand_row_name" : null,
"quality_infos" : [ {
  "data_quality_id" : 3
} ],
"alias" : "",
"self_defined_fields" : [ ]
}, {
  "id" : "1012314146592690176",
  "name_en" : "age",
  "name_ch" : "Age",
  "description" : "",
  "obs_location" : null,
  "create_by" : "abc",
  "update_by" : "abc",
  "data_type" : "STRING",
  "domain_type" : "STRING",
  "data_type_extend" : "",
  "is_primary_key" : false,
  "is_partition_key" : false,
  "is_foreign_key" : false,
  "extend_field" : false,
  "not_null" : false,
  "ordinal" : 3,
  "table_model_id" : null,
  "create_time" : "2022-08-25T10:55:00+08:00",
  "update_time" : "2022-08-25T10:55:00+08:00",
  "tags" : [ {
    "name" : 123
  } ],
  "stand_row_id" : null,
  "stand_row_name" : null,
  "quality_infos" : [ {
    "data_quality_id" : 3
  } ],
  "alias" : "",
  "self_defined_fields" : [ ]
} ],
"mappings" : [ {
  "name" : "test_mapping"
} ],
"relations" : [ {
  "name" : "test_relation"
} ],
"dw_type" : "DWS",
"dw_name" : null,
"l1" : "Factory",
"l2" : "Staff Management",
"l3" : "Personnel Profile",
"l1_id" : "1012305751919689728",
"l2_id" : "1012306048792526848",
"l3_id" : "1012306178602041344",
"partition_conf" : null,
"dfl_task_id" : null,
"use_recently_partition" : false,
"reversed" : null,
"dirty_out_switch" : false,
"dirty_out_database" : "",
"dirty_out_prefix" : "",
"dirty_out_suffix" : "",
```

```
"quality_owner" : null,
"quality_id" : "1012314332484304897",
"distribute" : null,
"distribute_column" : null,
"is_partition" : false,
"physical_table" : "CREATE_SUCCESS",
"technical_asset" : "CREATE_FAILED",
"business_asset" : "UPDATE_SUCCESS",
"meta_data_link" : "UPDATE_FAILED",
"data_quality" : "CREATE_SUCCESS",
"summary_status" : "SUMMARY_FAILED",
"alias" : null,
"self_defined_fields" : null
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Updates table-level quality rules based on request body parameters.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class UpdateDesignTableQualitySolution {
    public static void main(String[] args) {
```

```
// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
UpdateDesignTableQualityRequest request = new UpdateDesignTableQualityRequest();
request.withTableId("{table_id}");
UpdateDesignTableQualityParam body = new UpdateDesignTableQualityParam();
body.withDirtyOutSuffix("_2020_02_28");
body.withDirtyOutPrefix("err_");
body.withDirtyOutDatabase("default");
body.withDirtyOutSwitch(true);
body.withBizType(UpdateDesignTableQualityParam.BizTypeEnum.fromValue("TABLE_MODEL"));
request.withBody(body);
try {
    UpdateDesignTableQualityResponse response = client.updateDesignTableQuality(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Updates table-level quality rules based on request body parameters.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
```

```
.with_credentials(credentials) \  
.with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
.build()  
  
try:  
    request = UpdateDesignTableQualityRequest()  
    request.table_id = "{table_id}"  
    request.body = UpdateDesignTableQualityParam(  
        dirty_out_suffix="_2020_02_28",  
        dirty_out_prefix="err_",  
        dirty_out_database="default",  
        dirty_out_switch=True,  
        biz_type="TABLE_MODEL"  
    )  
    response = client.update_design_table_quality(request)  
    print(response)  
except exceptions.ClientRequestException as e:  
    print(e.status_code)  
    print(e.request_id)  
    print(e.error_code)  
    print(e.error_msg)
```

Go

Updates table-level quality rules based on request body parameters.

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build())  
  
    request := &model.UpdateDesignTableQualityRequest{}  
    request.TableId = "{table_id}"  
    dirtyOutSuffixUpdateDesignTableQualityParam := "_2020_02_28"  
    dirtyOutPrefixUpdateDesignTableQualityParam := "err_"  
    dirtyOutDatabaseUpdateDesignTableQualityParam := "default"  
    dirtyOutSwitchUpdateDesignTableQualityParam := true  
    bizTypeUpdateDesignTableQualityParam :=  
    model.GetUpdateDesignTableQualityParamBizTypeEnum().TABLE_MODEL  
    request.Body = &model.UpdateDesignTableQualityParam{  
        DirtyOutSuffix: &dirtyOutSuffixUpdateDesignTableQualityParam,  
        DirtyOutPrefix: &dirtyOutPrefixUpdateDesignTableQualityParam,  
        DirtyOutDatabase: &dirtyOutDatabaseUpdateDesignTableQualityParam,  
        DirtyOutSwitch: &dirtyOutSwitchUpdateDesignTableQualityParam,  
        BizType: &bizTypeUpdateDesignTableQualityParam,  
    }
```



```
DirtyOutDatabase: &dirtyOutDatabaseUpdateDesignTableQualityParam,  
DirtyOutSwitch: &dirtyOutSwitchUpdateDesignTableQualityParam,  
BizType: &bizTypeUpdateDesignTableQualityParam,  
}  
response, err := client.UpdateDesignTableQuality(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and all information about the updated table is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.24.2 Clear Quality Rule

Function

Clears the quality rule of a table.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/{table_id}/qualities

Table 7-1568 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Parameter	Mandatory	Type	Description
table_id	Yes	String	Table ID, which is a string

Table 7-1569 Query Parameters

Parameter	Mandatory	Type	Description
table_type	Yes	String	<p>Table type. The default value is Service table. TABLE_MODEL (service table (logical entity/physical table), AGGREGATION_LOGIC_TABLE (summary table), FACT_LOGIC_TABLE (fact table), and DIMENSION_LOGIC_TABLE (dimension table).</p> <ul style="list-style-type: none"> • TABLE_MODEL • AGGREGATION_LOGIC_TABLE • FACT_LOGIC_TABLE • DIMENSION_LOGIC_TABLE

Request Parameters

Table 7-1570 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p>IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header).</p> <p>This field is mandatory for authentication using tokens.</p>
workspace	Yes	String	<p>Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID.</p>

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1571 Response body parameters

Parameter	Type	Description
data	data object	Clear the data returned by the quality rule.

Table 7-1572 data

Parameter	Type	Description
value	Boolean	Indicates whether the alarm is cleared successfully.

Status code: 400

Table 7-1573 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1574 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1575 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

To clear the quality rules of the table whose ID is 1217123755210469378 and table type is TABLE_MODEL, run the following command:

```
DELETE https://{endpoint}/v2/{project_id}/design/1217123755210469378/qualities?
table_type=TABLE_MODEL
```

Example Responses

Status code: 200

Success: A message indicating whether the deletion is successful is returned.

```
{
  "data" : {
    "value" : true
  }
}
```

```
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class RemoveDesignQualityInfosSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```

```
        .build();
        RemoveDesignQualityInfosRequest request = new RemoveDesignQualityInfosRequest();
        request.withTableId("{table_id}");
        try {
            RemoveDesignQualityInfosResponse response = client.removeDesignQualityInfos(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = RemoveDesignQualityInfosRequest()
        request.table_id = "{table_id}"
        response = client.remove_design_quality_infos(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)
```

```
func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.RemoveDesignQualityInfosRequest{}
    request.TableId = "{table_id}"
    response, err := client.RemoveDesignQualityInfos(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success: A message indicating whether the deletion is successful is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.25 Tag API

7.25.1 Add a tag

Function

Tags an asset (table or attribute) based on its ID.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/{entity_id}/tags

Table 7-1576 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
entity_id	Yes	String	Table ID, which is a string

Table 7-1577 Query Parameters

Parameter	Mandatory	Type	Description
attr_id	No	String	Attribute ID, which is a string
tags	Yes	Array of strings	Indicates the tag name.

Request Parameters

Table 7-1578 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1579 Response body parameters

Parameter	Type	Description
data	data object	Returned data information.

Table 7-1580 data

Parameter	Type	Description
value	String	This parameter is returned by the API for adding a tag to a table or attribute or deleting a tag. If the value of vale is null, the operation is successful.

Status code: 400

Table 7-1581 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1582 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1583 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

- Add tags aaa and bbb to the table whose ID is 1217123755210469378.

```
PUT https://{endpoint}/v2/{project_id}/design/1217123755210469378/tags?tags=bbb&tags=aaa
```
- Add the aaa and bbb tags to the attribute whose ID is 1217123755210469379 in the table whose ID is 1217123755210469378.

```
PUT https://{endpoint}/v2/{project_id}/design/1217123755210469378/tags?attr_id=1217123755210469379&tags=aaa&tags=bbb
```

Example Responses

Status code: 200

Success: indicates whether the data is successfully returned.

```
{
  "data" : {
    "value" : null
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class AddDesignEntityTagsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
    }
}
```

```
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
AddDesignEntityTagsRequest request = new AddDesignEntityTagsRequest();
request.withEntityId("{entity_id}");
try {
    AddDesignEntityTagsResponse response = client.addDesignEntityTags(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = AddDesignEntityTagsRequest()
        request.entity_id = "{entity_id}"
        response = client.add_design_entity_tags(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.AddDesignEntityTagsRequest{}
    request.EntityId = "{entity_id}"
    response, err := client.AddDesignEntityTags(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success: indicates whether the data is successfully returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.25.2 Delete a tag.

Function

This API is used to delete an asset tag based on the ID of an asset (table or attribute).

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/{entity_id}/tags

Table 7-1584 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
entity_id	Yes	String	Table ID, which is a string

Table 7-1585 Query Parameters

Parameter	Mandatory	Type	Description
attr_id	No	String	Attribute ID, which is a string
tag	Yes	String	Label name

Request Parameters

Table 7-1586 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1587 Response body parameters

Parameter	Type	Description
data	data object	Returned data information.

Table 7-1588 data

Parameter	Type	Description
value	String	This parameter is returned by the API for adding a tag to a table or attribute or deleting a tag. If the value of vale is null, the operation is successful.

Status code: 400

Table 7-1589 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1590** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1591** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

- Remove the tag ddd from the table whose ID is 1217123755210469378.
DELETE https://{endpoint}/v2/{project_id}/design/1217123755210469378/tags?tag=ddd
- Remove the tag ccc from the attribute whose ID is 1217123755214663680 in the table whose ID is 1217123755210469378.
DELETE https://{endpoint}/v2/{project_id}/design/1217123755210469378/tags?attr_id=1217123755214663680&tag=ccc

Example Responses

Status code: 200

Success: indicates whether the data is successfully returned.

```
{
  "data" : {
    "value" : null
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class RemoveDesignEntityTagsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
    }
}
```

```
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();

RemoveDesignEntityTagsRequest request = new RemoveDesignEntityTagsRequest();
request.withEntityId("{entity_id}");
try {
    RemoveDesignEntityTagsResponse response = client.removeDesignEntityTags(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = RemoveDesignEntityTagsRequest()
        request.entity_id = "{entity_id}"
        response = client.remove_design_entity_tags(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.RemoveDesignEntityTagsRequest{}
    request.EntityId = "{entity_id}"
    response, err := client.RemoveDesignEntityTags(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success: indicates whether the data is successfully returned.
400	BadRequest
401	Unauthorized
403	Forbidden

7.26 Lookup Table Management

7.26.1 Querying the Lookup List

Function

This API is used to query the lookup table list.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/code-tables

Table 7-1592 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 7-1593 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Fuzzy query by name or code.
create_by	No	String	Query by creator.
approver	No	String	Query by reviewer.
directory_id	No	String	Directory ID, which is a string
status	No	String	Specifies the service status. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be approved• PUBLISHED: released• OFFLINE_DEVELOPING: to be approved• OFFLINE: offline• REJECT: rejected

Parameter	Mandatory	Type	Description
begin_time	No	String	Left boundary of time filtering. This parameter is used together with end_time. Only time range filtering is supported. Unilateral filtering is invalid. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
end_time	No	String	Right boundary for time filtering. This parameter is used together with begin_time to support only time range filtering. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-1594 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1595 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1596 data

Parameter	Type	Description
value	value object	value: unified outer data structure of the returned result.

Table 7-1597 value

Parameter	Type	Description
total	Integer	Total number.
records	Array of CodeTableVO objects	Number of queried code table objects (CodeTableVO).

Table 7-1598 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.
create_by	String	Creator.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Parameter	Type	Description
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManagementVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldVO objects	Code list attribute information.

Table 7-1599 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1600 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1601 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type

Parameter	Type	Description
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-1602 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Status code: 400**Table 7-1603** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1604** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1605** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-1606** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to obtain the list of the first 10 lookup tables.

```
GET https://{endpoint}/v2/{project_id}/design/code-tables?offset=1&limit=10
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a CodeTableVO array and the total number of records.

```
{
  "data": {
    "value": {
      "total": 10,
      "records": [ {
        "id": "1014131824240230400",
        "name_en": "test",
        "name_ch": "test",
        "tb_version": 0,
        "directory_id": "1012307270173851648",
        "directory_path": null,
        "description": "",
        "create_by": "abc",
        "status": "DRAFT",
        "create_time": "2022-08-30T11:17:48.557+08:00",
        "update_time": "2022-08-30T11:17:48.557+08:00",
        "approval_info": null,
        "new_biz": null,
        "code_table_fields": [ {
          "id": null,
          "code_table_id": null,
          "ordinal": 1,
          "name_en": "code",
          "name_ch": "Status",
          "description": "",
          "data_type": "STRING",
          "domain_type": null,
          "data_type_extend": null,
          "is_unique_key": false,
          "code_table_field_values": [ ],
          "count_field_values": null
        }, {
          "id": null,
          "code_table_id": null,
          "ordinal": 2,
          "name_en": "value",
          "name_ch": "Value",
          "description": "",
          "data_type": "STRING",
          "domain_type": null,
          "data_type_extend": null,
          "is_unique_key": false,
          "code_table_field_values": [ ],
          "count_field_values": null
        }
      ]
    }
  ]
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchCodeTablesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchCodeTablesRequest request = new SearchCodeTablesRequest();
        try {
            SearchCodeTablesResponse response = client.searchCodeTables(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
        }
    }
}
```

```
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchCodeTablesRequest()
        response = client.search_code_tables(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
```

```
WithProjectId(projectId).
Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.SearchCodeTablesRequest{}
response, err := client.SearchCodeTables(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a CodeTableVO array and the total number of records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.26.2 Creating a Lookup Table

Function

Create a lookup table.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/design/code-tables

Table 7-1607 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1608 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1609 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Lookup table ID, which is a string
name_en	Yes	String	Table name, in English.
name_ch	Yes	String	Table name, in Chinese.
tb_version	No	Integer	Table version.
directory_id	Yes	String	Directory ID, which is a string
directory_path	No	String	Directory tree.
description	No	String	Description.
create_by	No	String	Creator.
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.
code_table_fields	Yes	Array of CodeTableFieldVO objects	Code list attribute information.

Table 7-1610 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none">• DEVELOPING: being reviewed• APPROVED: approved• REJECT: rejected• WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none">• PUBLISH: released• OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-1611 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Table 7-1612 CodeTableFieldVO

Parameter	Mandatory	Type	Description
id	No	String	Lookup table field ID, which is a string
code_table_id	No	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Yes	Integer	Sequence number.
name_en	Yes	String	Field name, in English.
name_ch	Yes	String	Field name, in Chinese.
description	No	String	Description.
data_type	Yes	String	Field type
data_type_ext_end	No	String	Extended field of the data type.
is_unique_key	No	Boolean	Whether the field is unique.
code_table_field_values	No	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	No	Integer	Total number of lookup table attribute values.

Table 7-1613 CodeTableFieldValueVO

Parameter	Mandatory	Type	Description
id	No	String	Lookup table field ID, which is a string
fd_id	No	String	Attribute ID of the lookup table, which is a string
fd_value	No	String	Code list attribute value.
ordinal	No	Integer	Sequence number.
description	No	String	Description.

Response Parameters

Status code: 200

Table 7-1614 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1615 data

Parameter	Type	Description
value	CodeTableVO object	Code table structure.

Table 7-1616 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.

Parameter	Type	Description
create_by	String	Creator.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldV O objects	Code list attribute information.

Table 7-1617 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string

Parameter	Type	Description
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1618 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1619 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type

Parameter	Type	Description
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-1620 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Status code: 400

Table 7-1621 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1622** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1623** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-1624** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to create a lookup table based on the request parameters and save the table as a draft. The information about the successfully created lookup table is returned.

```
POST https://{endpoint}/v2/{project_id}/design/code-tables
{
```

```
"name_en" : "",
"name_ch" : "test_create_code_table",
"description" : "",
"code_table_fields" : [ {
  "ordinal" : 1,
  "name_ch" : "Message",
  "name_en" : "code",
  "data_type" : "STRING",
  "description" : "",
  "code_table_field_values" : [ ]
}, {
  "ordinal" : 2,
  "name_ch" : "Economical",
  "name_en" : "province",
  "data_type" : "STRING",
  "description" : "",
  "code_table_field_values" : [ ]
}, {
  "ordinal" : 3,
  "name_ch" : "Specifies the city where the customer is located.",
  "name_en" : "city",
  "data_type" : "STRING",
  "description" : "",
  "code_table_field_values" : [ ]
}, {
  "ordinal" : 4,
  "name_ch" : "County",
  "name_en" : "county",
  "data_type" : "STRING",
  "description" : "",
  "code_table_field_values" : [ ]
} ],
"tb_version" : 0,
"directory_id" : "1194963842254491648"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is CodeTableVO.

```
{
  "data" : {
    "value" : {
      "id" : "1230204979835502592",
      "name_en" : "DC000007",
      "name_ch" : "test_create_code_table",
      "tb_version" : 0,
      "directory_id" : "1194963842254491648",
      "directory_path" : null,
      "description" : "",
      "create_by" : "test_uesr",
      "status" : "DRAFT",
      "create_time" : "2024-04-17T17:15:23.296+08:00",
      "update_time" : "2024-04-17T17:15:23.296+08:00",
      "approval_info" : null,
      "new_biz" : null,
      "code_table_fields" : [ {
        "id" : null,
        "code_table_id" : null,
        "ordinal" : 1,
        "name_en" : "code",
        "name_ch" : "Status",
        "description" : "",
        "data_type" : "STRING",
        "domain_type" : null,
        "data_type_extend" : null,
        "is_unique_key" : false,

```

```
"code_table_field_values" : [ ],
"count_field_values" : null
}, {
  "id" : null,
  "code_table_id" : null,
  "ordinal" : 2,
  "name_en" : "province",
  "name_ch" : "Economical",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : null,
  "data_type_extend" : null,
  "is_unique_key" : false,
  "code_table_field_values" : [ ],
  "count_field_values" : null
}, {
  "id" : null,
  "code_table_id" : null,
  "ordinal" : 3,
  "name_en" : "city",
  "name_ch" : "City",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : null,
  "data_type_extend" : null,
  "is_unique_key" : false,
  "code_table_field_values" : [ ],
  "count_field_values" : null
}, {
  "id" : null,
  "code_table_id" : null,
  "ordinal" : 4,
  "name_en" : "county",
  "name_ch" : "County",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : null,
  "data_type_extend" : null,
  "is_unique_key" : false,
  "code_table_field_values" : [ ],
  "count_field_values" : null
}
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
```

```
"error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API is used to create a lookup table based on the request parameters and save the table as a draft. The information about the successfully created lookup table is returned.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class CreateCodeTableSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        CreateCodeTableRequest request = new CreateCodeTableRequest();  
        CodeTableVO body = new CodeTableVO();  
        List<CodeTableFieldVO> listbodyCodeTableFields = new ArrayList<>();  
        listbodyCodeTableFields.add(  
            new CodeTableFieldVO()  
                .withOrdinal(1)  
                .withNameEn("code")  
                .withNameCh("Message")  
                .withDescription("")  
                .withDataType("STRING")  
        );  
    }  
}
```

```
        .withCodeTableFieldValues()
    );
    listbodyCodeTableFields.add(
        new CodeTableFieldVO()
            .withOrdinal(2)
            .withNameEn("province")
            .withNameCh("Economic")
            .withDescription("")
            .withDataType("STRING")
            .withCodeTableFieldValues()
    );
    listbodyCodeTableFields.add(
        new CodeTableFieldVO()
            .withOrdinal(3)
            .withNameEn("city")
            .withNameCh("Specifies the city where the customer is located.")
            .withDescription("")
            .withDataType("STRING")
            .withCodeTableFieldValues()
    );
    listbodyCodeTableFields.add(
        new CodeTableFieldVO()
            .withOrdinal(4)
            .withNameEn("county")
            .withNameCh("County")
            .withDescription("")
            .withDataType("STRING")
            .withCodeTableFieldValues()
    );
    body.withCodeTableFields(listbodyCodeTableFields);
    body.withDescription("");
    body.withDirectoryId("1194963842254491648");
    body.withTbVersion(0);
    body.withNameCh("test_create_code_table");
    body.withNameEn("");
    request.withBody(body);
    try {
        CreateCodeTableResponse response = client.createCodeTable(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

This API is used to create a lookup table based on the request parameters and save the table as a draft. The information about the successfully created lookup table is returned.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
```

```
# The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
# In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = CreateCodeTableRequest()
    listCodeTableFieldsbody = [
        CodeTableFieldVO(
            ordinal=1,
            name_en="code",
            name_ch="Message",
            description="",
            data_type="STRING",
        ),
        CodeTableFieldVO(
            ordinal=2,
            name_en="province",
            name_ch="Economical",
            description="",
            data_type="STRING",
        ),
        CodeTableFieldVO(
            ordinal=3,
            name_en="city",
            name_ch="Specifies the city where the customer is located.",
            description="",
            data_type="STRING",
        ),
        CodeTableFieldVO(
            ordinal=4,
            name_en="county",
            name_ch="County",
            description="",
            data_type="STRING",
        )
    ]
    request.body = CodeTableVO(
        code_table_fields=listCodeTableFieldsbody,
        description="",
        directory_id="1194963842254491648",
        tb_version=0,
        name_ch="test_create_code_table",
        name_en=""
    )
    response = client.create_code_table(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```


Go

This API is used to create a lookup table based on the request parameters and save the table as a draft. The information about the successfully created lookup table is returned.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateCodeTableRequest{}
    descriptionCodeTableFields:= ""
    descriptionCodeTableFields1:= ""
    descriptionCodeTableFields2:= ""
    descriptionCodeTableFields3:= ""
    var listCodeTableFieldsbody = []model.CodeTableFieldVo{
        {
            Ordinal: int32(1),
            NameEn: "code",
            NameCh: "Message",
            Description: &descriptionCodeTableFields,
            DataType: "STRING",
        },
        {
            Ordinal: int32(2),
            NameEn: "province",
            NameCh: "Economical",
            Description: &descriptionCodeTableFields1,
            DataType: "STRING",
        },
        {
            Ordinal: int32(3),
            NameEn: "city",
            NameCh: "Specifies the city where the customer is located.",
            Description: &descriptionCodeTableFields2,
            DataType: "STRING",
        },
        {
            Ordinal: int32(4),
            NameEn: "county",
            NameCh: "County",
        }
    }
```

```
        Description: &descriptionCodeTableFields3,
        DataType: "STRING",
    },
}
descriptionCodeTableVo:= ""
tbVersionCodeTableVo:= int32(0)
request.Body = &model.CodeTableVo{
    CodeTableFields: listCodeTableFieldsbody,
    Description: &descriptionCodeTableVo,
    DirectoryId: "1194963842254491648",
    TbVersion: &tbVersionCodeTableVo,
    NameCh: "test_create_code_table",
    NameEn: "",
}
response, err := client.CreateCodeTable(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is CodeTableVO.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.26.3 Deleting Lookup Tables

Function

Deletes a lookup table.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v2/{project_id}/design/code-tables

Table 7-1625 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 7-1626 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1627 Request body parameters

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	ID list, which is a string
del_types	No	String	Deletion type. Enumerated values: <ul style="list-style-type: none"> • PHYSICAL_TABLE: whether to delete physical database tables. This parameter is valid only for tables that can be materialized. (If this parameter is set, physical database tables are deleted.)

Response Parameters

Status code: 200

Table 7-1628 Response body parameters

Parameter	Type	Description
data	data object	Indicates the final deletion result, that is, the number of objects that are successfully deleted.

Table 7-1629 data

Parameter	Type	Description
value	String	Number of successfully deleted objects

Status code: 400

Table 7-1630 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message

Parameter	Type	Description
data	Object	Returned data information.

Status code: 401**Table 7-1631** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1632** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-1633** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to delete a lookup table based on the request parameters. The number of lookup tables that are successfully deleted is returned.

```
DELETE https://{endpoint}/v2/{project_id}/design/code-tables
{
  "ids" : [ "1230206616507449344", "1230206580511875072" ]
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is the number of deleted data records.

```
{
  "value" : 2
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API is used to delete a lookup table based on the request parameters. The number of lookup tables that are successfully deleted is returned.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteCodeTableSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteCodeTableRequest request = new DeleteCodeTableRequest();
        IdsParam body = new IdsParam();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("1230206616507449344");
        listbodyIds.add("1230206580511875072");
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
            DeleteCodeTableResponse response = client.deleteCodeTable(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

This API is used to delete a lookup table based on the request parameters. The number of lookup tables that are successfully deleted is returned.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteCodeTableRequest()
        listIdsbody = [
            "1230206616507449344",
            "1230206580511875072"
        ]
        request.body = IdsParam(
            ids=listIdsbody
        )
        response = client.delete_code_table(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

This API is used to delete a lookup table based on the request parameters. The number of lookup tables that are successfully deleted is returned.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
```



```
WithSk(sk).
WithProjectId(projectId).
Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.DeleteCodeTableRequest{}
var listIdsbody = []string{
    "1230206616507449344",
    "1230206580511875072",
}
request.Body = &model.IdsParam{
    Ids: listIdsbody,
}
response, err := client.DeleteCodeTable(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is the number of deleted data records.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.26.4 Modifying a Lookup Table

Function

Modify the lookup table.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/code-tables/{id}

Table 7-1634 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Request Parameters

Table 7-1635 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1636 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Lookup table ID, which is a string
name_en	Yes	String	Table name, in English.
name_ch	Yes	String	Table name, in Chinese.
tb_version	No	Integer	Table version.
directory_id	Yes	String	Directory ID, which is a string
directory_path	No	String	Directory tree.
description	No	String	Description.
create_by	No	String	Creator.
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
approval_info	No	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	No	BizVersionManagementVO object	Service version management. This parameter is read-only.
code_table_fields	Yes	Array of CodeTableFieldVO objects	Code list attribute information.

Table 7-1637 ApprovalVO

Parameter	Mandatory	Type	Description
id	No	String	Application ID, which is a string
tenant_id	No	String	Project ID. For details about how to obtain the project ID, see the API path parameter <code>project_id</code> .
name_ch	No	String	Chinese name of a service.
name_en	No	String	English name of a service.
biz_id	No	String	Business ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> ● AGGREGATION_LOGIC_TABLE: summary table ● ATOMIC_INDEX: atomic metric ● ATOMIC_METRIC: atomic metric (new) ● BIZ_CATALOG: process architecture directory ● BIZ_METRIC: service indicator ● CODE_TABLE: code table ● COMMON_CONDITION: general filter ● COMPOSITE_METRIC: Compound Metric (new) ● COMPOUND_METRIC: compound metric ● CONDITION_GROUP: restriction group ● DEGENERATE_DIMENSION: degenerate dimension ● DERIVATIVE_INDEX: derivative indicator ● DERIVED_METRIC: derivative indicator (new) ● DIMENSION: dimension ● DIMENSION_ATTRIBUTE: dimension attribute ● DIMENSION_HIERARCHIES: dimension level ● DIMENSION_LOGIC_TABLE: dimension table ● DIMENSION_TABLE_ATTRIBUTE: dimension attribute ● DIRECTORY: directory ● FACT_ATTRIBUTE: fact table attribute ● FACT_DIMENSION: fact table dimension ● FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • FACT_MEASURE: fact table measurement • FUNCTION: function • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	No	String	Serialized service details. The type is string.
biz_info_obj	No	Object	Service details. The type is object.

Parameter	Mandatory	Type	Description
biz_version	No	Integer	Service version.
biz_status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	No	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	No	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	No	String	Submitted At
create_by	No	String	Creator.
l1	No	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	No	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.

Parameter	Mandatory	Type	Description
l3	No	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	No	String	Review time.
approver	No	String	Reviewer.
email	No	String	Email address of the reviewer.
msg	No	String	Review information.
directory_path	No	String	Directory tree.

Table 7-1638 BizVersionManageVO

Parameter	Mandatory	Type	Description
id	No	String	Field ID, which is a string

Parameter	Mandatory	Type	Description
biz_type	No	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● FACT_MEASURE: fact table measurement ● FUNCTION: function ● INFO_ARCH: information architecture (used for modifying themes in batches) ● MODEL: model ● QUALITY_RULE: quality rule ● SECRECY_LEVEL: security level ● STANDARD_ELEMENT: data standard ● STANDARD_ELEMENT_TEMPLATE: data standard template ● SUBJECT: theme ● Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables ● SUMMARY_INDEX: summary table indicator attribute ● SUMMARY_TIME: time period attribute of the SDR table ● TABLE_MODEL: relationship model (logical model/physical model) ● TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) ● TABLE_MODEL_LOGIC: logical entity ● TABLE_TYPE: table type ● TAG: tag ● TIME_CONDITION: time restriction
biz_id	No	String	Business ID, which is a string
biz_info	No	String	Business object information.

Parameter	Mandatory	Type	Description
status	No	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected

Table 7-1639 CodeTableFieldVO

Parameter	Mandatory	Type	Description
id	No	String	Lookup table field ID, which is a string
code_table_id	No	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Yes	Integer	Sequence number.
name_en	Yes	String	Field name, in English.
name_ch	Yes	String	Field name, in Chinese.
description	No	String	Description.
data_type	Yes	String	Field type
data_type_ext_end	No	String	Extended field of the data type.
is_unique_key	No	Boolean	Whether the field is unique.
code_table_field_values	No	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	No	Integer	Total number of lookup table attribute values.

Table 7-1640 CodeTableFieldValueVO

Parameter	Mandatory	Type	Description
id	No	String	Lookup table field ID, which is a string
fd_id	No	String	Attribute ID of the lookup table, which is a string
fd_value	No	String	Code list attribute value.
ordinal	No	Integer	Sequence number.
description	No	String	Description.

Response Parameters

Status code: 200

Table 7-1641 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1642 data

Parameter	Type	Description
value	CodeTableVO object	Code table structure.

Table 7-1643 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.

Parameter	Type	Description
create_by	String	Creator.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManag eVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldV O objects	Code list attribute information.

Table 7-1644 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string

Parameter	Type	Description
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1645 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1646 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type

Parameter	Type	Description
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-1647 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Status code: 400**Table 7-1648** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1649** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1650** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-1651** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to modify a lookup table based on the request parameters. The modified lookup table information is returned.

```
PUT https://{endpoint}/v2/{project_id}/design/code-tables/1230204979835502592
```

```
{  
  "name_en" : "DC000007",
```

```
"name_ch" : "test_update_code_table",
"description" : "",
"code_table_fields" : [ {
  "ordinal" : 1,
  "name_ch" : "Status",
  "name_en" : "code",
  "data_type" : "STRING",
  "description" : "",
  "code_table_field_values" : [ ],
  "code_table_id" : "1230204979835502592",
  "id" : "178101"
}, {
  "ordinal" : 2,
  "name_ch" : "Economical",
  "name_en" : "province",
  "data_type" : "STRING",
  "description" : "",
  "code_table_field_values" : [ ],
  "code_table_id" : "1230204979835502592",
  "id" : "178102"
}, {
  "ordinal" : 3,
  "name_ch" : "City",
  "name_en" : "city",
  "data_type" : "STRING",
  "description" : "",
  "code_table_field_values" : [ ],
  "code_table_id" : "1230204979835502592",
  "id" : "178103"
}, {
  "ordinal" : 4,
  "name_ch" : "County",
  "name_en" : "county",
  "data_type" : "STRING",
  "description" : "",
  "code_table_field_values" : [ ],
  "code_table_id" : "1230204979835502592",
  "id" : "178104"
} ],
"tb_version" : 0,
"directory_id" : "1194963842254491648",
"id" : "1230204979835502592"
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is CodeTableVO.

```
{
  "data" : {
    "value" : {
      "id" : "1230204979835502592",
      "name_en" : "DC000007",
      "name_ch" : "test_update_code_table",
      "tb_version" : 0,
      "directory_id" : "1194963842254491648",
      "directory_path" : null,
      "description" : "",
      "create_by" : "test_uesr",
      "status" : "DRAFT",
      "create_time" : "2024-04-17T17:15:23+08:00",
      "update_time" : "2024-04-17T17:25:34.449+08:00",
      "approval_info" : null,
      "new_biz" : null,
      "code_table_fields" : [ {
        "id" : "178101",
        "code_table_id" : "1230204979835502592",

```



```
"ordinal" : 1,
"name_en" : "code",
"name_ch" : "Message",
"description" : "",
"data_type" : "STRING",
"domain_type" : null,
"data_type_extend" : null,
"is_unique_key" : false,
"code_table_field_values" : [ ],
"count_field_values" : null
}, {
  "id" : "178102",
  "code_table_id" : "1230204979835502592",
  "ordinal" : 2,
  "name_en" : "province",
  "name_ch" : "Economical",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : null,
  "data_type_extend" : null,
  "is_unique_key" : false,
  "code_table_field_values" : [ ],
  "count_field_values" : null
}, {
  "id" : "178103",
  "code_table_id" : "1230204979835502592",
  "ordinal" : 3,
  "name_en" : "city",
  "name_ch" : "City",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : null,
  "data_type_extend" : null,
  "is_unique_key" : false,
  "code_table_field_values" : [ ],
  "count_field_values" : null
}, {
  "id" : "178104",
  "code_table_id" : "1230204979835502592",
  "ordinal" : 4,
  "name_en" : "county",
  "name_ch" : "County",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : null,
  "data_type_extend" : null,
  "is_unique_key" : false,
  "code_table_field_values" : [ ],
  "count_field_values" : null
}
}
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
```

```
"error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

This API is used to modify a lookup table based on the request parameters. The modified lookup table information is returned.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
import java.util.List;  
import java.util.ArrayList;  
  
public class UpdateCodeTableSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        UpdateCodeTableRequest request = new UpdateCodeTableRequest();  
        request.withId("{id}");  
    }  
}
```

```
CodeTableVO body = new CodeTableVO();
List<CodeTableFieldVO> listbodyCodeTableFields = new ArrayList<>();
listbodyCodeTableFields.add(
    new CodeTableFieldVO()
        .withId("178101")
        .withCodeTableId("1230204979835502592")
        .withOrdinal(1)
        .withNameEn("code")
        .withNameCh("Status")
        .withDescription("")
        .withDataType("STRING")
        .withCodeTableFieldValues()
);
listbodyCodeTableFields.add(
    new CodeTableFieldVO()
        .withId("178102")
        .withCodeTableId("1230204979835502592")
        .withOrdinal(2)
        .withNameEn("province")
        .withNameCh("Economical")
        .withDescription("")
        .withDataType("STRING")
        .withCodeTableFieldValues()
);
listbodyCodeTableFields.add(
    new CodeTableFieldVO()
        .withId("178103")
        .withCodeTableId("1230204979835502592")
        .withOrdinal(3)
        .withNameEn("city")
        .withNameCh("City")
        .withDescription("")
        .withDataType("STRING")
        .withCodeTableFieldValues()
);
listbodyCodeTableFields.add(
    new CodeTableFieldVO()
        .withId("178104")
        .withCodeTableId("1230204979835502592")
        .withOrdinal(4)
        .withNameEn("county")
        .withNameCh("County")
        .withDescription("")
        .withDataType("STRING")
        .withCodeTableFieldValues()
);
body.withCodeTableFields(listbodyCodeTableFields);
body.withDescription("");
body.withDirectoryId("1194963842254491648");
body.withTbVersion(0);
body.withNameCh("test_update_code_table");
body.withNameEn("DC000007");
body.withId("1230204979835502592");
request.withBody(body);
try {
    UpdateCodeTableResponse response = client.updateCodeTable(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

```
}  
}
```

Python

This API is used to modify a lookup table based on the request parameters. The modified lookup table information is returned.

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    # variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = UpdateCodeTableRequest()  
        request.id = "{id}"  
        listCodeTableFieldsbody = [  
            CodeTableFieldVO(  
                id="178101",  
                code_table_id="1230204979835502592",  
                ordinal=1,  
                name_en="code",  
                name_ch="Status",  
                description="",  
                data_type="STRING",  
            ),  
            CodeTableFieldVO(  
                id="178102",  
                code_table_id="1230204979835502592",  
                ordinal=2,  
                name_en="province",  
                name_ch="Economical",  
                description="",  
                data_type="STRING",  
            ),  
            CodeTableFieldVO(  
                id="178103",  
                code_table_id="1230204979835502592",  
                ordinal=3,  
                name_en="city",  
                name_ch="City",  
                description="",  
                data_type="STRING",  
            ),  
            CodeTableFieldVO(  
                id="178104",  
                code_table_id="1230204979835502592",  
                ordinal=4,  
                name_en="county",
```

```
        name_ch="County",
        description="",
        data_type="STRING",
    )
]
request.body = CodeTableVO(
    code_table_fields=listCodeTableFieldsbody,
    description="",
    directory_id="1194963842254491648",
    tb_version=0,
    name_ch="test_update_code_table",
    name_en="DC000007",
    id="1230204979835502592"
)
response = client.update_code_table(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

This API is used to modify a lookup table based on the request parameters. The modified lookup table information is returned.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateCodeTableRequest{}
    request.Id = "{id}"
    idCodeTableFields:= "178101"
    codeTableIdCodeTableFields:= "1230204979835502592"
    descriptionCodeTableFields:= ""
    idCodeTableFields1:= "178102"
    codeTableIdCodeTableFields1:= "1230204979835502592"
    descriptionCodeTableFields1:= ""
    idCodeTableFields2:= "178103"
    codeTableIdCodeTableFields2:= "1230204979835502592"
```

```
descriptionCodeTableFields2:= ""
idCodeTableFields3:= "178104"
codeTableIdCodeTableFields3:= "1230204979835502592"
descriptionCodeTableFields3:= ""
var listCodeTableFieldsbody = []model.CodeTableFieldVo{
    {
        Id: &idCodeTableFields,
        CodeTableId: &codeTableIdCodeTableFields,
        Ordinal: int32(1),
        NameEn: "code",
        NameCh: "Status",
        Description: &descriptionCodeTableFields,
        DataType: "STRING",
    },
    {
        Id: &idCodeTableFields1,
        CodeTableId: &codeTableIdCodeTableFields1,
        Ordinal: int32(2),
        NameEn: "province",
        NameCh: "Economical",
        Description: &descriptionCodeTableFields1,
        DataType: "STRING",
    },
    {
        Id: &idCodeTableFields2,
        CodeTableId: &codeTableIdCodeTableFields2,
        Ordinal: int32(3),
        NameEn: "city",
        NameCh: "City",
        Description: &descriptionCodeTableFields2,
        DataType: "STRING",
    },
    {
        Id: &idCodeTableFields3,
        CodeTableId: &codeTableIdCodeTableFields3,
        Ordinal: int32(4),
        NameEn: "county",
        NameCh: "County",
        Description: &descriptionCodeTableFields3,
        DataType: "STRING",
    },
}
descriptionCodeTableVo:= ""
tbVersionCodeTableVo:= int32(0)
idCodeTableVo:= "1230204979835502592"
request.Body = &model.CodeTableVo{
    CodeTableFields: listCodeTableFieldsbody,
    Description: &descriptionCodeTableVo,
    DirectoryId: "1194963842254491648",
    TbVersion: &tbVersionCodeTableVo,
    NameCh: "test_update_code_table",
    NameEn: "DC000007",
    Id: &idCodeTableVo,
}
response, err := client.UpdateCodeTable(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is CodeTableVO.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.26.5 Viewing Lookup Table Details

Function

This API is used to view details about a lookup table by ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/code-tables/{id}

Table 7-1652 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Request Parameters

Table 7-1653 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200**Table 7-1654** Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1655 data

Parameter	Type	Description
value	CodeTableVO object	Code table structure.

Table 7-1656 CodeTableVO

Parameter	Type	Description
id	String	Lookup table ID, which is a string
name_en	String	Table name, in English.
name_ch	String	Table name, in Chinese.
tb_version	Integer	Table version.
directory_id	String	Directory ID, which is a string
directory_path	String	Directory tree.
description	String	Description.
create_by	String	Creator.
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none">• DRAFT: draft• PUBLISH_DEVELOPING: to be reviewed• PUBLISHED: released• OFFLINE_DEVELOPING: to be reviewed• OFFLINE: offline• REJECT: rejected
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
approval_info	ApprovalVO object	Approval information. This parameter is read-only. Latest review information about a business object, including the business details, reviewer information, and review time.
new_biz	BizVersionManageVO object	Service version management. This parameter is read-only.
code_table_fields	Array of CodeTableFieldVO objects	Code list attribute information.

Table 7-1657 ApprovalVO

Parameter	Type	Description
id	String	Application ID, which is a string
tenant_id	String	Project ID. For details about how to obtain the project ID, see the API path parameter project_id.
name_ch	String	Chinese name of a service.
name_en	String	English name of a service.
biz_id	String	Business ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_info	String	Serialized service details. The type is string.
biz_info_obj	Object	Service details. The type is object.
biz_version	Integer	Service version.

Parameter	Type	Description
biz_status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
approval_status	String	Service approval status. This parameter is read-only. Options: <ul style="list-style-type: none"> • DEVELOPING: being reviewed • APPROVED: approved • REJECT: rejected • WITHDREW: approval cancellation
approval_type	String	Service review type. Options: <ul style="list-style-type: none"> • PUBLISH: released • OFFLINE: offline
submit_time	String	Submitted At
create_by	String	Creator.
l1	String	Chinese name of the subject area group. This parameter is read-only and does not need to be set when you create or update a subject area group.
l2	String	Chinese name of the subject area. This parameter is read-only and does not need to be set during creation and update.
l3	String	Chinese name of the business object. This parameter is read-only and does not need to be set during creation and update.
approval_time	String	Review time.

Parameter	Type	Description
approver	String	Reviewer.
email	String	Email address of the reviewer.
msg	String	Review information.
directory_path	String	Directory tree.

Table 7-1658 BizVersionManageVO

Parameter	Type	Description
id	String	Field ID, which is a string

Parameter	Type	Description
biz_type	String	<p>Business entity type.</p> <p>Options:</p> <ul style="list-style-type: none"> • AGGREGATION_LOGIC_TABLE: summary table • ATOMIC_INDEX: atomic metric • ATOMIC_METRIC: atomic metric (new) • BIZ_CATALOG: process architecture directory • BIZ_METRIC: service indicator • CODE_TABLE: code table • COMMON_CONDITION: general filter • COMPOSITE_METRIC: Compound Metric (new) • COMPOUND_METRIC: compound metric • CONDITION_GROUP: restriction group • DEGENERATE_DIMENSION: degenerate dimension • DERIVATIVE_INDEX: derivative indicator • DERIVED_METRIC: derivative indicator (new) • DIMENSION: dimension • DIMENSION_ATTRIBUTE: dimension attribute • DIMENSION_HIERARCHIES: dimension level • DIMENSION_LOGIC_TABLE: dimension table • DIMENSION_TABLE_ATTRIBUTE: dimension attribute • DIRECTORY: directory • FACT_ATTRIBUTE: fact table attribute • FACT_DIMENSION: fact table dimension • FACT_LOGIC_TABLE: fact table • FACT_MEASURE: fact table measurement • FUNCTION: function

Parameter	Type	Description
		<ul style="list-style-type: none"> • INFO_ARCH: information architecture (used for modifying themes in batches) • MODEL: model • QUALITY_RULE: quality rule • SECRECY_LEVEL: security level • STANDARD_ELEMENT: data standard • STANDARD_ELEMENT_TEMPLATE: data standard template • SUBJECT: theme • Dimension attributes of SUMMARY_DIMENSION_ATTRIBUTE: summary tables • SUMMARY_INDEX: summary table indicator attribute • SUMMARY_TIME: time period attribute of the SDR table • TABLE_MODEL: relationship model (logical model/physical model) • TABLE_MODEL_ATTRIBUTE: relationship model attribute (logical model/physical model) • TABLE_MODEL_LOGIC: logical entity • TABLE_TYPE: table type • TAG: tag • TIME_CONDITION: time restriction
biz_id	String	Business ID, which is a string
biz_info	String	Business object information.

Parameter	Type	Description
status	String	Release status of an entity. This parameter is read-only and does not need to be set during creation and update. Options: <ul style="list-style-type: none"> • DRAFT: draft • PUBLISH_DEVELOPING: to be reviewed • PUBLISHED: released • OFFLINE_DEVELOPING: to be reviewed • OFFLINE: offline • REJECT: rejected
biz_version	Integer	Service version, which is read-only.
create_time	String	Creation time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.
update_time	String	Update time, which is read-only. The format complies with RFC3339 and is accurate to seconds. The UTC time zone is yyyy-mm-ddTHH:MM:SSZ, for example, 1970-01-01T00:00:00Z.

Table 7-1659 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type

Parameter	Type	Description
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none"> • NUMBER: number • STRING: character type • DATETIME: date type • BLOB: large object (BLOB) • OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-1660 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Status code: 400

Table 7-1661 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1662** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403**Table 7-1663** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404**Table 7-1664** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

This API is used to query lookup table information based on the lookup table ID.

```
GET https://{endpoint}/v2/{project_id}/design/code-tables/1230204979835502592
```

Example Responses

Status code: 200

This operation is successful, and the returned data is CodeTableVO details.

```
{
  "data": {
    "value": {
      "id": "1012307352952635392",
      "name_en": "RY_000001",
      "name_ch": "Gender",
      "tb_version": 0,
      "directory_id": "1012307270173851648",
      "directory_path": null,
      "description": "",
      "create_by": "abc",
      "status": "PUBLISHED",
      "create_time": "2022-08-25T10:28:01+08:00",
      "update_time": "2022-08-25T10:31:08+08:00",
      "approval_info": null,
      "new_biz": null,
      "code_table_fields": [ {
        "id": "66929",
        "code_table_id": "1012307352952635392",
        "ordinal": 1,
        "name_en": "code",
        "name_ch": "Message",
        "description": "",
        "data_type": "STRING",
        "domain_type": null,
        "data_type_extend": null,
        "is_unique_key": false,
        "code_table_field_values": [ ],
        "count_field_values": null
      }, {
        "id": "66930",
        "code_table_id": "1012307352952635392",
        "ordinal": 2,
        "name_en": "value",
        "name_ch": "Value",
        "description": "",
        "data_type": "STRING",
        "domain_type": null,
        "data_type_extend": null,
        "is_unique_key": false,
        "code_table_field_values": [ ],
        "count_field_values": null
      } ]
    }
  }
}
```

Status code: 400

BadRequest

```
{
  "error_code": "DS.60xx",
  "error_msg": "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "DS.60xx",
  "error_msg": "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowCodeTableByIdSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowCodeTableByIdRequest request = new ShowCodeTableByIdRequest();
        request.withId("{id}");
        try {
            ShowCodeTableByIdResponse response = client.showCodeTableById(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

```
}  
}  
}
```

Python

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = ShowCodeTableByIdRequest()  
        request.id = "{id}"  
        response = client.show_code_table_by_id(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()
```

```
client := dataartsstudio.NewDataArtsStudioClient(  
    dataartsstudio.DataArtsStudioClientBuilder().  
        WithRegion(region.ValueOf("<YOUR REGION>")).  
        WithCredential(auth).  
        Build())  
  
request := &model.ShowCodeTableByIdRequest{}  
request.Id = "{id}"  
response, err := client.ShowCodeTableById(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation is successful, and the returned data is CodeTableVO details.
400	BadRequest
401	Unauthorized
403	Forbidden
404	Not Found

7.26.6 Viewing Field Values in the Code Table

Function

Check the values of the fields in the code table.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/design/code-tables/{id}/values

Table 7-1665 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Table 7-1666 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried on each page, that is, Y records to be queried. The default value is 50, and the value range is [1,100].
offset	No	Integer	Start coordinate of the query, that is, the number of skipped data records. The value can only be 0 or an integer multiple of limit. If the value does not meet the requirement, the value is rounded down. The default value is 0.

Request Parameters

Table 7-1667 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Response Parameters

Status code: 200

Table 7-1668 Response body parameters

Parameter	Type	Description
data	Object	Returned data information.

Status code: 400

Table 7-1669 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401

Table 7-1670 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1671 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-1672 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Edit the field values of the lookup table based on the request parameters, including adding fields to the lookup table.

```
GET https://{endpoint}/v2/{project_id}/design/code-tables/1230204979835502592/values
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a CodeTableFieldInfoVO array and the total number of records.

```
{
  "data": {
    "value": {
      "id": "1230204979835502592",
      "name_en": "DC000007",
      "name_ch": "test_update_code_table",
      "tb_version": 0,
      "directory_id": "1194963842254491648",
      "directory_path": "test_czh_dir",
      "description": "",
      "from_public": false,
      "create_by": "test_uesr",
      "status": "DRAFT",
      "create_time": "2024-04-17T17:15:23+08:00",
      "update_time": "2024-04-17T17:25:34+08:00",
      "approval_info": null,
      "new_biz": null,
      "code_table_fields": [ {
        "id": "178101",
        "code_table_id": "1230204979835502592",
        "ordinal": 1,
        "name_en": "code",
        "name_ch": "Status",
        "description": "",
        "data_type": "STRING",
        "domain_type": null,
        "data_type_extend": null,
        "is_unique_key": false,
        "code_table_field_values": [ ],
        "count_field_values": null
      }, {
        "id": "178102",
        "code_table_id": "1230204979835502592",
        "ordinal": 2,
        "name_en": "province",
        "name_ch": "Economical",
        "description": "",
        "data_type": "STRING",
        "domain_type": null,
        "data_type_extend": null,
        "is_unique_key": false,
        "code_table_field_values": [ ],
        "count_field_values": null
      }, {
        "id": "178103",
        "code_table_id": "1230204979835502592",
        "ordinal": 3,
        "name_en": "city",
        "name_ch": "City",
        "description": "",
        "data_type": "STRING",
        "domain_type": null,
        "data_type_extend": null,
        "is_unique_key": false,
        "code_table_field_values": [ ],
        "count_field_values": null
      }, {
        "id": "178104",
        "code_table_id": "1230204979835502592",
        "ordinal": 4,
        "name_en": "county",
        "name_ch": "County",
        "description": "",
        "data_type": "STRING",
        "domain_type": null,
        "data_type_extend": null,

```

```
"is_unique_key" : false,  
"code_table_field_values" : [ ],  
"count_field_values" : null  
  }]  
}  
}
```

Status code: 400

BadRequest

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user request is illegal."  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "User authentication failed."  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The user does not have permission to call this API."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "DS.60xx",  
  "error_msg" : "The User Request API does not exist."  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class SearchCodeTableValuesSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        environment variables and decrypted during use to ensure security.  
    }  
}
```

```
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
SearchCodeTableValuesRequest request = new SearchCodeTableValuesRequest();
request.withId("{id}");
try {
    SearchCodeTableValuesResponse response = client.searchCodeTableValues(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchCodeTableValuesRequest()
        request.id = "{id}"
        response = client.search_code_table_values(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
```

```
print(e.error_code)
print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.SearchCodeTableValuesRequest{}
    request.Id = "{id}"
    response, err := client.SearchCodeTableValues(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a CodeTableFieldInfoVO array and the total number of records.
400	BadRequest
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found

7.26.7 Edit Code Table Field Value

Function

Edit the values of the fields in the lookup table.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/design/code-tables/{id}/values

Table 7-1673 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
id	Yes	String	Entity ID, which is a string

Request Parameters

Table 7-1674 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token, which is obtained by calling the IAM API for obtaining a user token (value of X-Subject-Token in the response header). This field is mandatory for authentication using tokens.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Project-Id	No	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID . This parameter is mandatory for API requests that use AK/SK authentication in multi-project scenarios.
Content-Type	No	String	Default value: application/json;charset=UTF-8 This parameter is optional. If the body is available, this parameter is mandatory. If the body is unavailable, you do not need to set this parameter or verify it.

Table 7-1675 Request body parameters

Parameter	Mandatory	Type	Description
to_add	No	Array of CodeTableFieldVO objects	The code table attribute and attribute value list are added.
to_modify	No	Array of CodeTableFieldVO objects	Edit the lookup table attribute value list.
to_remove	No	Array of CodeTableFieldVO objects	List of lookup table attribute IDs to be deleted.

Table 7-1676 CodeTableFieldVO

Parameter	Mandatory	Type	Description
id	No	String	Lookup table field ID, which is a string

Parameter	Mandatory	Type	Description
code_table_id	No	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Yes	Integer	Sequence number.
name_en	Yes	String	Field name, in English.
name_ch	Yes	String	Field name, in Chinese.
description	No	String	Description.
data_type	Yes	String	Field type
data_type_ext_end	No	String	Extended field of the data type.
is_unique_key	No	Boolean	Whether the field is unique.
code_table_field_values	No	Array of CodeTableFieldValueVO objects	Code list attribute value.
count_field_values	No	Integer	Total number of lookup table attribute values.

Table 7-1677 CodeTableFieldValueVO

Parameter	Mandatory	Type	Description
id	No	String	Lookup table field ID, which is a string
fd_id	No	String	Attribute ID of the lookup table, which is a string
fd_value	No	String	Code list attribute value.
ordinal	No	Integer	Sequence number.
description	No	String	Description.

Response Parameters

Status code: 200

Table 7-1678 Response body parameters

Parameter	Type	Description
data	data object	data: unified outermost data structure of the returned result.

Table 7-1679 data

Parameter	Type	Description
value	Array of CodeTableFieldVO objects	Code table field list information.

Table 7-1680 CodeTableFieldVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
code_table_id	String	ID of the lookup table (mandatory for update), which is a string
ordinal	Integer	Sequence number.
name_en	String	Field name, in English.
name_ch	String	Field name, in Chinese.
description	String	Description.
data_type	String	Field type
domain_type	String	Domain to which a field type belongs. Options: <ul style="list-style-type: none">• NUMBER: number• STRING: character type• DATETIME: date type• BLOB: large object (BLOB)• OTHER: other types
data_type_extend	String	Extended field of the data type.
is_unique_key	Boolean	Whether the field is unique.
code_table_field_values	Array of CodeTableFieldVO objects	Code list attribute value.

Parameter	Type	Description
count_field_values	Integer	Total number of lookup table attribute values.

Table 7-1681 CodeTableFieldValueVO

Parameter	Type	Description
id	String	Lookup table field ID, which is a string
fd_id	String	Attribute ID of the lookup table, which is a string
fd_value	String	Code list attribute value.
ordinal	Integer	Sequence number.
description	String	Description.

Status code: 400**Table 7-1682** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 401**Table 7-1683** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 403

Table 7-1684 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Status code: 404

Table 7-1685 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DS.6000, indicating that the request fails to be processed.
error_msg	String	Error message
data	Object	Returned data information.

Example Requests

Edit the field values of the lookup table based on the request parameters, including adding fields to the lookup table.

PUT https://{endpoint}/v2/{project_id}/design/code-tables/1230204979835502592/values

```
{
  "to_add": [ {
    "id": "178101",
    "code_table_id": "1230204979835502592",
    "ordinal": 1,
    "name_en": "code",
    "name_ch": "Message",
    "description": "",
    "data_type": "STRING",
    "domain_type": null,
    "data_type_extend": null,
    "is_unique_key": false,
    "code_table_field_values": [ {
      "fd_id": "178101",
      "fd_value": "4",
      "ordinal": 4
    } ],
    "count_field_values": 3
  }, {
    "id": "178102",
    "code_table_id": "1230204979835502592",
    "ordinal": 2,
    "name_en": "province",
    "name_ch": "Economical",
    "description": ""
  } ]
}
```

```
"data_type": "STRING",
"domain_type": null,
"data_type_extend": null,
"is_unique_key": false,
"code_table_field_values": [ {
  "fd_id": "178102",
  "fd_value": "Chongqing Province",
  "ordinal": 4
} ],
"count_field_values": 3
}, {
  "id": "178103",
  "code_table_id": "1230204979835502592",
  "ordinal": 3,
  "name_en": "city",
  "name_ch": "Specifies the city where the customer is located.",
  "description": "",
  "data_type": "STRING",
  "domain_type": null,
  "data_type_extend": null,
  "is_unique_key": false,
  "code_table_field_values": [ {
    "fd_id": "178103",
    "fd_value": "Chongqing Province",
    "ordinal": 4
  } ],
  "count_field_values": 3
}, {
  "id": "178104",
  "code_table_id": "1230204979835502592",
  "ordinal": 4,
  "name_en": "county",
  "name_ch": "County",
  "description": "",
  "data_type": "STRING",
  "domain_type": null,
  "data_type_extend": null,
  "is_unique_key": false,
  "code_table_field_values": [ {
    "fd_id": "178104",
    "fd_value": "Yudong District",
    "ordinal": 4
  } ],
  "count_field_values": 3
} ]
}
```

Example Responses

Status code: 200

This operation succeeds, and the returned data is a CodeTableFieldVO array.

```
{
  "data": {
    "value": [ {
      "id": "178101",
      "code_table_id": "1230204979835502592",
      "ordinal": 1,
      "name_en": "code",
      "name_ch": "Message",
      "description": "",
      "data_type": "STRING",
      "domain_type": null,
      "data_type_extend": null,
      "is_unique_key": false,
      "code_table_field_values": [ {
        "id": "19983446",
        "fd_id": "178101",
```

```
"fd_value" : "1",
"ordinal" : 1,
"description" : null
}, {
  "id" : "19983450",
  "fd_id" : "178101",
  "fd_value" : "2",
  "ordinal" : 2,
  "description" : null
}, {
  "id" : "19983454",
  "fd_id" : "178101",
  "fd_value" : "3",
  "ordinal" : 3,
  "description" : null
}, {
  "id" : "19983554",
  "fd_id" : "178101",
  "fd_value" : "4",
  "ordinal" : 4,
  "description" : null
}],
"count_field_values" : 4
}, {
  "id" : "178102",
  "code_table_id" : "1230204979835502592",
  "ordinal" : 2,
  "name_en" : "province",
  "name_ch" : "Economical",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : null,
  "data_type_extend" : null,
  "is_unique_key" : false,
  "code_table_field_values" : [ {
    "id" : "19983447",
    "fd_id" : "178102",
    "fd_value" : "Anhui",
    "ordinal" : 1,
    "description" : null
  }, {
    "id" : "19983451",
    "fd_id" : "178102",
    "fd_value" : "Jiangsu",
    "ordinal" : 2,
    "description" : null
  }, {
    "id" : "19983455",
    "fd_id" : "178102",
    "fd_value" : "Shanghai",
    "ordinal" : 3,
    "description" : null
  }, {
    "id" : "19983555",
    "fd_id" : "178102",
    "fd_value" : "Chongqing Province",
    "ordinal" : 4,
    "description" : null
  }
],
"count_field_values" : 4
}, {
  "id" : "178103",
  "code_table_id" : "1230204979835502592",
  "ordinal" : 3,
  "name_en" : "city",
  "name_ch" : "Cities",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : null,
```

```
"data_type_extend" : null,
"is_unique_key" : false,
"code_table_field_values" : [ {
  "id" : "19983448",
  "fd_id" : "178103",
  "fd_value" : "Hefei",
  "ordinal" : 1,
  "description" : null
}, {
  "id" : "19983452",
  "fd_id" : "178103",
  "fd_value" : "Nanjing",
  "ordinal" : 2,
  "description" : null
}, {
  "id" : "19983456",
  "fd_id" : "178103",
  "fd_value" : "Shanghai",
  "ordinal" : 3,
  "description" : null
}, {
  "id" : "19983556",
  "fd_id" : "178103",
  "fd_value" : "Chongqing Province",
  "ordinal" : 4,
  "description" : null
} ],
"count_field_values" : 4
}, {
  "id" : "178104",
  "code_table_id" : "1230204979835502592",
  "ordinal" : 4,
  "name_en" : "county",
  "name_ch" : "County",
  "description" : "",
  "data_type" : "STRING",
  "domain_type" : null,
  "data_type_extend" : null,
  "is_unique_key" : false,
  "code_table_field_values" : [ {
    "id" : "19983449",
    "fd_id" : "178104",
    "fd_value" : "Yaohai District",
    "ordinal" : 1,
    "description" : null
  }, {
    "id" : "19983453",
    "fd_id" : "178104",
    "fd_value" : "Yuhuatai District",
    "ordinal" : 2,
    "description" : null
  }, {
    "id" : "19983457",
    "fd_id" : "178104",
    "fd_value" : "Pudong New Area",
    "ordinal" : 3,
    "description" : null
  }, {
    "id" : "19983557",
    "fd_id" : "178104",
    "fd_value" : "Yudong District",
    "ordinal" : 4,
    "description" : null
  } ],
  "count_field_values" : 4
} ]
}
```

Status code: 400

BadRequest

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user request is illegal."
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "User authentication failed."
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The user does not have permission to call this API."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DS.60xx",
  "error_msg" : "The User Request API does not exist."
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Edit the field values of the lookup table based on the request parameters, including adding fields to the lookup table.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class UpdateCodeTableValuesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
    }
}
```



```
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();

UpdateCodeTableValuesRequest request = new UpdateCodeTableValuesRequest();
request.withId("{id}");
CodeTableFieldValueUpdateVO body = new CodeTableFieldValueUpdateVO();
List<CodeTableFieldValueVO> listToAddCodeTableFieldValues = new ArrayList<>();
listToAddCodeTableFieldValues.add(
    new CodeTableFieldValueVO()
        .withFdId("178104")
        .withFdValue("Yudong District")
        .withOrdinal(4)
);
List<CodeTableFieldValueVO> listToAddCodeTableFieldValues1 = new ArrayList<>();
listToAddCodeTableFieldValues1.add(
    new CodeTableFieldValueVO()
        .withFdId("178103")
        .withFdValue("Chongqing Province")
        .withOrdinal(4)
);
List<CodeTableFieldValueVO> listToAddCodeTableFieldValues2 = new ArrayList<>();
listToAddCodeTableFieldValues2.add(
    new CodeTableFieldValueVO()
        .withFdId("178102")
        .withFdValue("Chongqing Province")
        .withOrdinal(4)
);
List<CodeTableFieldValueVO> listToAddCodeTableFieldValues3 = new ArrayList<>();
listToAddCodeTableFieldValues3.add(
    new CodeTableFieldValueVO()
        .withFdId("178101")
        .withFdValue("4")
        .withOrdinal(4)
);
List<CodeTableFieldVO> listbodyToAdd = new ArrayList<>();
listbodyToAdd.add(
    new CodeTableFieldVO()
        .withId("178101")
        .withCodeTableId("1230204979835502592")
        .withOrdinal(1)
        .withNameEn("code")
        .withNameCh("Message")
        .withDescription("")
        .withDataType("STRING")
        .withIsUniqueKey(false)
        .withCodeTableFieldValues(listToAddCodeTableFieldValues3)
        .withCountFieldValues(3)
);
listbodyToAdd.add(
    new CodeTableFieldVO()
        .withId("178102")
        .withCodeTableId("1230204979835502592")
        .withOrdinal(2)
        .withNameEn("province")
        .withNameCh("Economical")
        .withDescription("")
        .withDataType("STRING")
        .withIsUniqueKey(false)
        .withCodeTableFieldValues(listToAddCodeTableFieldValues2)
        .withCountFieldValues(3)
);
```

```
listbodyToAdd.add(
    new CodeTableFieldVO()
        .withId("178103")
        .withCodeTableId("1230204979835502592")
        .withOrdinal(3)
        .withNameEn("city")
        .withNameCh("Specifies the city where the customer is located.")
        .withDescription("")
        .withDataType("STRING")
        .withIsUniqueKey(false)
        .withCodeTableFieldValues(listToAddCodeTableFieldValues1)
        .withCountFieldValues(3)
);
listbodyToAdd.add(
    new CodeTableFieldVO()
        .withId("178104")
        .withCodeTableId("1230204979835502592")
        .withOrdinal(4)
        .withNameEn("county")
        .withNameCh("County")
        .withDescription("")
        .withDataType("STRING")
        .withIsUniqueKey(false)
        .withCodeTableFieldValues(listToAddCodeTableFieldValues)
        .withCountFieldValues(3)
);
body.withToAdd(listbodyToAdd);
request.withBody(body);
try {
    UpdateCodeTableValuesResponse response = client.updateCodeTableValues(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Edit the field values of the lookup table based on the request parameters, including adding fields to the lookup table.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)
```

```
client = DataArtsStudioClient.new_builder() \  
  .with_credentials(credentials) \  
  .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
  .build()  
  
try:  
  request = UpdateCodeTableValuesRequest()  
  request.id = "{id}"  
  listCodeTableFieldValuesToAdd = [  
    CodeTableFieldValueVO(  
      fd_id="178104",  
      fd_value="Yudong District",  
      ordinal=4  
    )  
  ]  
  listCodeTableFieldValuesToAdd1 = [  
    CodeTableFieldValueVO(  
      fd_id="178103",  
      fd_value="Chongqing Province",  
      ordinal=4  
    )  
  ]  
  listCodeTableFieldValuesToAdd2 = [  
    CodeTableFieldValueVO(  
      fd_id="178102",  
      fd_value="Chongqing Province",  
      ordinal=4  
    )  
  ]  
  listCodeTableFieldValuesToAdd3 = [  
    CodeTableFieldValueVO(  
      fd_id="178101",  
      fd_value="4",  
      ordinal=4  
    )  
  ]  
  listToAddbody = [  
    CodeTableFieldVO(  
      id="178101",  
      code_table_id="1230204979835502592",  
      ordinal=1,  
      name_en="code",  
      name_ch="Message",  
      description="",  
      data_type="STRING",  
      is_unique_key=False,  
      code_table_field_values=listCodeTableFieldValuesToAdd3,  
      count_field_values=3  
    ),  
    CodeTableFieldVO(  
      id="178102",  
      code_table_id="1230204979835502592",  
      ordinal=2,  
      name_en="province",  
      name_ch="Economical",  
      description="",  
      data_type="STRING",  
      is_unique_key=False,  
      code_table_field_values=listCodeTableFieldValuesToAdd2,  
      count_field_values=3  
    ),  
    CodeTableFieldVO(  
      id="178103",  
      code_table_id="1230204979835502592",  
      ordinal=3,  
      name_en="city",  
      name_ch="Specifies the city where the customer is located.",  
      description=""
```

```
        data_type="STRING",
        is_unique_key=False,
        code_table_field_values=listCodeTableFieldValuesToAdd1,
        count_field_values=3
    ),
    CodeTableFieldVO(
        id="178104",
        code_table_id="1230204979835502592",
        ordinal=4,
        name_en="county",
        name_ch="County",
        description="",
        data_type="STRING",
        is_unique_key=False,
        code_table_field_values=listCodeTableFieldValuesToAdd,
        count_field_values=3
    )
]
request.body = CodeTableFieldValueUpdateVO(
    to_add=listToAddbody
)
response = client.update_code_table_values(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Edit the field values of the lookup table based on the request parameters, including adding fields to the lookup table.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateCodeTableValuesRequest{
        request.Id = "{id}"
        fdIdCodeTableFieldValues:= "178104"
```

```
fdValueCodeTableFieldValues:= "Yudong District"
ordinalCodeTableFieldValues:= int32(4)
var listCodeTableFieldValuesToAdd = []model.CodeTableFieldValueVo{
    {
        FdId: &fdIdCodeTableFieldValues,
        FdValue: &fdValueCodeTableFieldValues,
        Ordinal: &ordinalCodeTableFieldValues,
    },
}
fdIdCodeTableFieldValues1:= "178103"
fdValueCodeTableFieldValues1:= "Chongqing Province"
ordinalCodeTableFieldValues1:= int32(4)
var listCodeTableFieldValuesToAdd1 = []model.CodeTableFieldValueVo{
    {
        FdId: &fdIdCodeTableFieldValues1,
        FdValue: &fdValueCodeTableFieldValues1,
        Ordinal: &ordinalCodeTableFieldValues1,
    },
}
fdIdCodeTableFieldValues2:= "178102"
fdValueCodeTableFieldValues2:= "Chongqing Province"
ordinalCodeTableFieldValues2:= int32(4)
var listCodeTableFieldValuesToAdd2 = []model.CodeTableFieldValueVo{
    {
        FdId: &fdIdCodeTableFieldValues2,
        FdValue: &fdValueCodeTableFieldValues2,
        Ordinal: &ordinalCodeTableFieldValues2,
    },
}
fdIdCodeTableFieldValues3:= "178101"
fdValueCodeTableFieldValues3:= "4"
ordinalCodeTableFieldValues3:= int32(4)
var listCodeTableFieldValuesToAdd3 = []model.CodeTableFieldValueVo{
    {
        FdId: &fdIdCodeTableFieldValues3,
        FdValue: &fdValueCodeTableFieldValues3,
        Ordinal: &ordinalCodeTableFieldValues3,
    },
}
idToAdd:= "178101"
codeTableIdToAdd:= "1230204979835502592"
descriptionToAdd:= ""
isUniqueKeyToAdd:= false
countFieldValuesToAdd:= int32(3)
idToAdd1:= "178102"
codeTableIdToAdd1:= "1230204979835502592"
descriptionToAdd1:= ""
isUniqueKeyToAdd1:= false
countFieldValuesToAdd1:= int32(3)
idToAdd2:= "178103"
codeTableIdToAdd2:= "1230204979835502592"
descriptionToAdd2:= ""
isUniqueKeyToAdd2:= false
countFieldValuesToAdd2:= int32(3)
idToAdd3:= "178104"
codeTableIdToAdd3:= "1230204979835502592"
descriptionToAdd3:= ""
isUniqueKeyToAdd3:= false
countFieldValuesToAdd3:= int32(3)
var listToAddbody = []model.CodeTableFieldVo{
    {
        Id: &idToAdd,
        CodeTableId: &codeTableIdToAdd,
        Ordinal: int32(1),
        NameEn: "code",
        NameCh: "Message",
        Description: &descriptionToAdd,
        DataType: "STRING",
        IsUniqueKey: &isUniqueKeyToAdd,
```

```
CodeTableFieldValues: &listCodeTableFieldValuesToAdd3,
CountFieldValues: &countFieldValuesToAdd,
},
{
  Id: &idToAdd1,
  CodeTableId: &codeTableIdToAdd1,
  Ordinal: int32(2),
  NameEn: "province",
  NameCh: "Economic",
  Description: &descriptionToAdd1,
  DataType: "STRING",
  IsUniqueKey: &isUniqueKeyToAdd1,
  CodeTableFieldValues: &listCodeTableFieldValuesToAdd2,
  CountFieldValues: &countFieldValuesToAdd1,
},
{
  Id: &idToAdd2,
  CodeTableId: &codeTableIdToAdd2,
  Ordinal: int32(3),
  NameEn: "city",
  NameCh: "Specifies the city where the customer is located.",
  Description: &descriptionToAdd2,
  DataType: "STRING",
  IsUniqueKey: &isUniqueKeyToAdd2,
  CodeTableFieldValues: &listCodeTableFieldValuesToAdd1,
  CountFieldValues: &countFieldValuesToAdd2,
},
{
  Id: &idToAdd3,
  CodeTableId: &codeTableIdToAdd3,
  Ordinal: int32(4),
  NameEn: "county",
  NameCh: "County",
  Description: &descriptionToAdd3,
  DataType: "STRING",
  IsUniqueKey: &isUniqueKeyToAdd3,
  CodeTableFieldValues: &listCodeTableFieldValuesToAdd,
  CountFieldValues: &countFieldValuesToAdd3,
},
}
}
request.Body = &model.CodeTableFieldValueUpdateVo{
  ToAdd: &listToAddbody,
}
response, err := client.UpdateCodeTableValues(request)
if err == nil {
  fmt.Printf("%+v\n", response)
} else {
  fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This operation succeeds, and the returned data is a CodeTableFieldVO array.
400	BadRequest

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

8 DataArts Quality APIs

8.1 Catalogs

8.1.1 Obtaining Job Catalogs

Function

This API is used to obtain job directories.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/categories

Table 8-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Table 8-2 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records on each page. The maximum value is 100 .

Parameter	Mandatory	Type	Description
offset	No	Integer	Paging offset

Request Parameters

Table 8-3 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
accept	Yes	String	application/json
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-4 Response body parameters

Parameter	Type	Description
[items]	Array of CategoryDetailVO objects	List of custom items

Table 8-5 CategoryDetailVO

Parameter	Type	Description
id	Long	Directory ID. The ID of the root directory is 0.
name	String	Name
type	String	Type. The value can be built_in or user-defined .
pid	String	Parent directory ID

Parameter	Type	Description
sub_categories	Array of SubCategoryDetailVO objects	Subdirectories

Table 8-6 SubCategoryDetailVO

Parameter	Type	Description
id	Long	Directory ID. The ID of the root directory is 0 .
name	String	Name
type	String	Type. The value can be built_in or user-defined .
pid	String	Parent directory ID
sub_categories	Object	Subdirectory

Status code: 400**Table 8-7** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500**Table 8-8** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

Status code: 200

Success

```
[ {
  "name" : "All",
  "id" : 0,
  "type" : "built_in",
  "pid" : "-1",
  "sub_categories" : [ {
    "name" : "qwe",
    "id" : 1012384968858652700,
    "type" : "user-defined",
    "pid" : "0",
    "sub_categories" : [ {
      "id" : 1,
      "name" : "name"
    } ]
  } ]
} ]
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListCategorySolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
```

```
ListCategoryRequest request = new ListCategoryRequest();
try {
    ListCategoryResponse response = client.listCategory(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListCategoryRequest()
        response = client.list_category(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```

```
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ListCategoryRequest{}
response, err := client.ListCategory(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.2 Rule Templates

8.2.1 Obtaining the Rule Template List

Function

This API is used to obtain the list of rule templates.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/rule-templates

Table 8-9 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Table 8-10 Query Parameters

Parameter	Mandatory	Type	Description
category_id	No	Long	Directory ID
name	No	String	Rule template name
system_template	No	Boolean	Whether to query only system templates
creator	No	String	Creator
limit	No	Integer	Number of records on each page. The maximum value is 100 .
offset	No	Integer	Paging offset

Request Parameters

Table 8-11 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-12 Response body parameters

Parameter	Type	Description
count	Long	Total number of records
resources	Array of RuleTemplateDetailVO objects	Pagination data

Table 8-13 RuleTemplateDetailVO

Parameter	Type	Description
id	Long	Rule template ID
name	String	Rule template name
category_id	Long	Catalog ID
dimension	String	Dimension, which can be Completeness, Uniqueness, Timeliness, Validity, Accuracy, or Consistency
type	String	Rule type. Field indicates a field rule, Table indicates a table rule, Database indicates a database rule, Cross-field indicates a cross-field rule, and Customize indicates a custom rule.
system_template	Boolean	Whether the template is a system template
sql_info	String	SQL information
abnormal_table_template	String	Abnormal table template
result_description	String	Result description
create_time	Long	Creation time. The value is a 13-digit timestamp accurate to millisecond.
creator	String	Creator. Value System indicates that the creator is provided by the system.

Status code: 400

Table 8-14 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-15 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

Status code: 200

Success

```
{
  "count" : 2,
  "resources" : [ {
    "id" : 1012384820829081600,
    "name" : "test",
    "dimension" : "Uniqueness",
    "sql_info" : "select count(*) from ${Schema_Table1}",
    "category_id" : 0,
    "type" : "Table",
    "system_template" : false,
    "create_time" : 1661412950486,
    "creator" : "ei",
    "result_description" : "row : ${1}"
  }, {
    "id" : 1,
    "name" : "Number of table rows",
    "dimension" : "Accuracy",
    "sql_info" : "select count(1) from ${Schema_Table1}",
    "category_id" : 0,
    "type" : "Table",
    "system_template" : true,
    "create_time" : 1571328000000,
    "creator" : "System",
    "result_description" : "Total number of rows: ${1}"
  } ]
}
```


SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListQualityTemplatesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListQualityTemplatesRequest request = new ListQualityTemplatesRequest();
        try {
            ListQualityTemplatesResponse response = client.listQualityTemplates(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
```

```
# The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
# In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListQualityTemplatesRequest()
    response = client.list_quality_templates(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListQualityTemplatesRequest{}
    response, err := client.ListQualityTemplates(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.2.2 Creating a Rule Template

Function

This API is used to create a rule template.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/quality/rule-templates

Table 8-16 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Request Parameters

Table 8-17 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Table 8-18 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Rule template ID
name	No	String	Rule template name
directory_id	No	Long	Directory ID
dimension_id	No	Integer	Dimension ID. Value 1 indicates completeness, 2 indicates uniqueness, 3 indicates timeliness, 4 indicates validity, 5 indicates accuracy, and 6 indicates consistency.
description	No	String	Description
sql_info	No	String	SQL content in the template
result_description	No	String	Result description
publish	No	Boolean	Whether the operation is a publish operation. Value true indicates publishing a new version, and false indicates saving the current version.
origin_name	No	String	Original template name
abnormal_table_template	No	String	Abnormal table template
user_define_version_name	No	String	User-defined version name
version_num	No	Long	Version number in the template information
status	No	Integer	Rule template status. Value 0 indicates offline, and 1 indicates published.

Response Parameters

Status code: 200

Table 8-19 Response body parameters

Parameter	Type	Description
id	Long	Rule template ID
name	String	Rule template name
category_id	Long	Catalog ID
dimension	String	Dimension, which can be Completeness, Uniqueness, Timeliness, Validity, Accuracy, or Consistency
type	String	Rule type. Field indicates a field rule, Table indicates a table rule, Database indicates a database rule, Cross-field indicates a cross-field rule, and Customize indicates a custom rule.
system_template	Boolean	Whether the template is a system template
sql_info	String	SQL information
abnormal_table_template	String	Abnormal table template
result_description	String	Result description
create_time	Long	Creation time. The value is a 13-digit timestamp accurate to millisecond.
creator	String	Creator. Value System indicates that the creator is provided by the system.

Status code: 400

Table 8-20 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-21 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

Create a rule template named **test**. The template ID is **0**, directory ID is **0**, dimension ID is **1**, SQL content in the template is **select count(*) from \$ {Schema_Table1}**, release operation is **false** by default, result description is the total number of records, and description is **test**.

```
POST /v2/0833a5737480d53b2f25c010dc1a7b88/quality/rule-templates
```

```
{
  "id": "0",
  "name": "test",
  "directory_id": "0",
  "dimension_id": 1,
  "description": "test",
  "sql_info": "select count(*) from ${Schema_Table1}",
  "result_description": "Total number of records",
  "publish": false,
  "origin_name": null,
  "abnormal_table_template": "select count(*) from ${Schema_Table1}",
  "user_define_version_name": null,
  "version_num": null,
  "status": null
}
```

Example Responses

Status code: 200

Success

```
{
  "id": "1045431715138617345",
  "name": "test",
  "category_id": 0,
  "dimension": "Completeness",
  "type": "Table",
  "system_template": false,
  "sql_info": "select count(*) from ${Schema_Table1}",
  "abnormal_table_template": "select count(*) from ${Schema_Table1}",
  "result_description": "Number of records",
  "create_time": 1640678720014,
  "creator": "test"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a rule template named **test**. The template ID is **0**, directory ID is **0**, dimension ID is **1**, SQL content in the template is **select count(*) from \${Schema_Table1}**, release operation is **false** by default, result description is the total number of records, and description is **test**.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class CreateTemplateSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR_REGION>"))
            .build();
        CreateTemplateRequest request = new CreateTemplateRequest();
        TemplateRO body = new TemplateRO();
        body.withAbnormalTableTemplate("select count(*) from ${Schema_Table1}");
        body.withPublish(false);
        body.withResultDescription("Total number of records");
        body.withSqlInfo("select count(*) from ${Schema_Table1}");
        body.withDescription("test");
        body.withDimensionId(1);
        body.withDirectoryId(0L);
        body.withName("test");
        body.withId("0");
        request.withBody(body);
        try {
            CreateTemplateResponse response = client.createTemplate(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Create a rule template named **test**. The template ID is **0**, directory ID is **0**, dimension ID is **1**, SQL content in the template is **select count(*) from \$ {Schema_Table1}**, release operation is **false** by default, result description is the total number of records, and description is **test**.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateTemplateRequest()
        request.body = TemplateRO(
            abnormal_table_template="select count(*) from ${Schema_Table1}",
            publish=False,
            result_description="Total number of records",
            sql_info="select count(*) from ${Schema_Table1}",
            description="test",
            dimension_id=1,
            directory_id=0,
            name="test",
            id="0"
        )
        response = client.create_template(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Create a rule template named **test**. The template ID is **0**, directory ID is **0**, dimension ID is **1**, SQL content in the template is **select count(*) from \$ {Schema_Table1}**, release operation is **false** by default, result description is the total number of records, and description is **test**.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
```



```
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateTemplateRequest{}
    abnormalTableTemplateTemplateRo:= "select count(*) from ${Schema_Table1}"
    publishTemplateRo:= false
    resultDescriptionTemplateRo:= "Total number of records"
    sqlInfoTemplateRo:= "select count(*) from ${Schema_Table1}"
    descriptionTemplateRo:= "test"
    dimensionIdTemplateRo:= int32(1)
    directoryIdTemplateRo:= int64(0)
    nameTemplateRo:= "test"
    idTemplateRo:= "0"
    request.Body = &model.TemplateRo{
        AbnormalTableTemplate: &abnormalTableTemplateTemplateRo,
        Publish: &publishTemplateRo,
        ResultDescription: &resultDescriptionTemplateRo,
        SqlInfo: &sqlInfoTemplateRo,
        Description: &descriptionTemplateRo,
        DimensionId: &dimensionIdTemplateRo,
        DirectoryId: &directoryIdTemplateRo,
        Name: &nameTemplateRo,
        Id: &idTemplateRo,
    }
    response, err := client.CreateTemplate(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.2.3 Obtaining Rule Template Details

Function

This API is used to obtain the details of a rule template.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/rule-templates/{id}

Table 8-22 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
id	Yes	Long	Rule template ID

Request Parameters

Table 8-23 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-24 Response body parameters

Parameter	Type	Description
id	Integer	Rule template ID
name	String	Rule template name
category_id	Long	Directory ID
dimension	String	Dimension, which can be Completeness, Uniqueness, Timeliness, Validity, Accuracy, or Consistency
type	String	Rule type. Field indicates a field rule, Table indicates a table rule, Database indicates a database rule, Cross-field indicates a cross-field rule, and Customize indicates a custom rule.
system_template	Boolean	Whether the template is a system template
sql_info	String	SQL information
result_description	String	Result description
create_time	Long	Creation time. The value is a 13-digit timestamp accurate to millisecond.
creator	String	Creator. Value System indicates that the creator is provided by the system.

Status code: 400

Table 8-25 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-26 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

Status code: 200

Success

```
{
  "id" : 1012384820829081600,
  "name" : "test",
  "dimension" : "Uniqueness",
  "sql_info" : "select count(*) from ${Schema_Table1}",
  "category_id" : 0,
  "type" : "Table",
  "system_template" : false,
  "create_time" : 1661412950486,
  "creator" : "ei",
  "result_description" : "row : ${1}"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
```

```
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowTemplatesDetailSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowTemplatesDetailRequest request = new ShowTemplatesDetailRequest();
        request.withId("{id}");
        try {
            ShowTemplatesDetailResponse response = client.showTemplatesDetail(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)
```

```
client = DataArtsStudioClient.new_builder() \  
  .with_credentials(credentials) \  
  .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
  .build()  
  
try:  
  request = ShowTemplatesDetailRequest()  
  request.id = {id}  
  response = client.show_templates_detail(request)  
  print(response)  
except exceptions.ClientRequestException as e:  
  print(e.status_code)  
  print(e.request_id)  
  print(e.error_code)  
  print(e.error_msg)
```

Go

```
package main  
  
import (  
  "fmt"  
  "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
  dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
  "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
  region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
  // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
  risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
  variables and decrypted during use to ensure security.  
  // In this example, AK and SK are stored in environment variables for authentication. Before running this  
  example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
  ak := os.Getenv("CLOUD_SDK_AK")  
  sk := os.Getenv("CLOUD_SDK_SK")  
  projectId := "{project_id}"  
  
  auth := basic.NewCredentialsBuilder().  
    WithAk(ak).  
    WithSk(sk).  
    WithProjectId(projectId).  
    Build()  
  
  client := dataartsstudio.NewDataArtsStudioClient(  
    dataartsstudio.DataArtsStudioClientBuilder().  
      WithRegion(region.ValueOf("<YOUR REGION>")).  
      WithCredential(auth).  
      Build())  
  
  request := &model.ShowTemplatesDetailRequest{  
    request.Id = int64({id})  
  }  
  response, err := client.ShowTemplatesDetail(request)  
  if err == nil {  
    fmt.Printf("%+v\n", response)  
  } else {  
    fmt.Println(err)  
  }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.2.4 Updating a Rule Template

Function

This API is used to update a rule template.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/quality/rule-templates/{id}

Table 8-27 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
id	Yes	Long	Rule template ID

Request Parameters

Table 8-28 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Table 8-29 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Rule template ID
name	No	String	Rule template name
directory_id	No	Long	Directory ID
dimension_id	No	Integer	Dimension ID. Value 1 indicates completeness, 2 indicates uniqueness, 3 indicates timeliness, 4 indicates validity, 5 indicates accuracy, and 6 indicates consistency.
description	No	String	Description
sql_info	No	String	SQL content in the template
result_description	No	String	Result description
publish	No	Boolean	Whether the operation is a publish operation. Value true indicates publishing a new version, and false indicates saving the current version.
origin_name	No	String	Original template name
abnormal_table_template	No	String	Abnormal table template
user_define_version_name	No	String	User-defined version name
version_num	No	Long	Version number in the template information
status	No	Integer	Rule template status. Value 0 indicates offline, and 1 indicates published.

Response Parameters

Status code: 200

Table 8-30 Response body parameters

Parameter	Type	Description
id	Long	Rule template ID
name	String	Rule template name
category_id	Long	Catalog ID
dimension	String	Dimension, which can be Completeness, Uniqueness, Timeliness, Validity, Accuracy, or Consistency
type	String	Rule type. Field indicates a field rule, Table indicates a table rule, Database indicates a database rule, Cross-field indicates a cross-field rule, and Customize indicates a custom rule.
system_template	Boolean	Whether the template is a system template
sql_info	String	SQL information
abnormal_table_template	String	Abnormal table template
result_description	String	Result description
create_time	Long	Creation time. The value is a 13-digit timestamp accurate to millisecond.
creator	String	Creator. Value System indicates that the creator is provided by the system.

Status code: 400

Table 8-31 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-32 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

Update a rule template named **test**. The template ID is **0**, directory ID is **0**, dimension ID is **1**, SQL content in the template is **select count(*) from \$ {Schema_Table1}**, release operation is **false** by default, result description is the total number of records, and description is **test**.

```
PUT /v2/0833a5737480d53b2f25c010dc1a7b88/quality/rule-templates/1045431715138617345
```

```
{
  "id": "1045431715138617345",
  "name": "test",
  "directory_id": "0",
  "dimension_id": 1,
  "description": "test",
  "sql_info": "select count(*) from ${Schema_Table1}",
  "result_description": "Total number of records",
  "publish": true,
  "origin_name": "test",
  "abnormal_table_template": "select count(*) from ${Schema_Table1}",
  "user_define_version_name": "V1.1",
  "version_num": 0,
  "status": 1
}
```

Example Responses

Status code: 200

Success

```
{
  "id": "1045431715138617345",
  "name": "test",
  "category_id": 0,
  "dimension": "Completeness",
  "type": "Table",
  "system_template": false,
  "sql_info": "select count(*) from ${Schema_Table1}",
  "abnormal_table_template": "select count(*) from ${Schema_Table1}",
  "result_description": "Number of records",
  "create_time": 1640678720014,
  "creator": "test"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update a rule template named **test**. The template ID is **0**, directory ID is **0**, dimension ID is **1**, SQL content in the template is **select count(*) from \${Schema_Table1}**, release operation is **false** by default, result description is the total number of records, and description is **test**.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class UpdateTemplateSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateTemplateRequest request = new UpdateTemplateRequest();
        request.withId("{id}");
        TemplateRO body = new TemplateRO();
        body.withStatus(1);
        body.withVersionNum(0L);
        body.withUserDefineVersionName("V1.1");
        body.withAbnormalTableTemplate("select count(*) from ${Schema_Table1}");
        body.withOriginName("test");
        body.withPublish(true);
        body.withResultDescription("Total number of records");
        body.withSqlInfo("select count(*) from ${Schema_Table1}");
        body.withDescription("test");
        body.withDimensionId(1);
        body.withDirectoryId(0L);
        body.withName("test");
        body.withId("1045431715138617345");
        request.withBody(body);
        try {
            UpdateTemplateResponse response = client.updateTemplate(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
        }
    }
}
```

```
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Update a rule template named **test**. The template ID is **0**, directory ID is **0**, dimension ID is **1**, SQL content in the template is **select count(*) from \$ {Schema_Table1}**, release operation is **false** by default, result description is the total number of records, and description is **test**.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateTemplateRequest()
        request.id = "{id}"
        request.body = TemplateRO(
            status=1,
            version_num=0,
            user_define_version_name="V1.1",
            abnormal_table_template="select count(*) from ${Schema_Table1}",
            origin_name="test",
            publish=True,
            result_description="Total number of records",
            sql_info="select count(*) from ${Schema_Table1}",
            description="test",
            dimension_id=1,
            directory_id=0,
            name="test",
            id="1045431715138617345"
        )
        response = client.update_template(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Update a rule template named **test**. The template ID is **0**, directory ID is **0**, dimension ID is **1**, SQL content in the template is **select count(*) from \${Schema_Table1}**, release operation is **false** by default, result description is the total number of records, and description is **test**.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateTemplateRequest{}
    request.Id = "{id}"
    statusTemplateRo:= int32(1)
    versionNumTemplateRo:= int64(0)
    userDefineVersionNameTemplateRo:= "V1.1"
    abnormalTableTemplateTemplateRo:= "select count(*) from ${Schema_Table1}"
    originNameTemplateRo:= "test"
    publishTemplateRo:= true
    resultDescriptionTemplateRo:= "Total number of records"
    sqlInfoTemplateRo:= "select count(*) from ${Schema_Table1}"
    descriptionTemplateRo:= "test"
    dimensionIdTemplateRo:= int32(1)
    directoryIdTemplateRo:= int64(0)
    nameTemplateRo:= "test"
    idTemplateRo:= "1045431715138617345"
    request.Body = &model.TemplateRo{
        Status: &statusTemplateRo,
        VersionNum: &versionNumTemplateRo,
        UserDefineVersionName: &userDefineVersionNameTemplateRo,
        AbnormalTableTemplate: &abnormalTableTemplateTemplateRo,
        OriginName: &originNameTemplateRo,
        Publish: &publishTemplateRo,
        ResultDescription: &resultDescriptionTemplateRo,
        SqlInfo: &sqlInfoTemplateRo,
        Description: &descriptionTemplateRo,
        DimensionId: &dimensionIdTemplateRo,
        DirectoryId: &directoryIdTemplateRo,
        Name: &nameTemplateRo,
        Id: &idTemplateRo,
```

```
}
response, err := client.UpdateTemplate(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.2.5 Deleting Rule Templates

Function

This API is used to delete rule templates.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/quality/rule-templates/batch-delete

Table 8-33 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Request Parameters

Table 8-34 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Table 8-35 Request body parameters

Parameter	Mandatory	Type	Description
ids	No	Array of longs	IDs of templates

Response Parameters

Status code: 400

Table 8-36 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-37 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

Delete rule templates whose IDs are **1045431715138617345** and **1035847774756868096**.

```
POST /v2/0833a5737480d53b2f25c010dc1a7b88/quality/rule-templates/batch-delete
{
  "ids" : [ 1045431715138617345, 1035847774756868096 ]
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Delete rule templates whose IDs are **1045431715138617345** and **1035847774756868096**.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class BatchDeleteTemplatesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        BatchDeleteTemplatesRequest request = new BatchDeleteTemplatesRequest();
        TemplateListRO body = new TemplateListRO();
        List<Long> listbodyIds = new ArrayList<>();
        listbodyIds.add(1045431715138617345L);
        listbodyIds.add(1035847774756868096L);
        body.withIds(listbodyIds);
```



```
request.withBody(body);
try {
    BatchDeleteTemplatesResponse response = client.batchDeleteTemplates(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Delete rule templates whose IDs are **1045431715138617345** and **1035847774756868096**.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = BatchDeleteTemplatesRequest()
        listIdsbody = [
            1045431715138617345,
            1035847774756868096
        ]
        request.body = TemplateListRO(
            ids=listIdsbody
        )
        response = client.batch_delete_templates(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Delete rule templates whose IDs are **1045431715138617345** and **1035847774756868096**.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.BatchDeleteTemplatesRequest{}
    var listIdsbody = []int64{
        int64(1045431715138617345),
        int64(1035847774756868096),
    }
    request.Body = &model.TemplateListRo{
        Ids: &listIdsbody,
    }
    response, err := client.BatchDeleteTemplates(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success

Status Code	Description
400	BadRequest
500	INTERNAL SERVER ERROR

8.3 Quality Jobs

8.3.1 Obtaining the Quality Job List

Function

This API is used to obtain the list of quality jobs.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/quality/rules

Table 8-38 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Table 8-39 Query Parameters

Parameter	Mandatory	Type	Description
start	No	Long	Start page number, which is used to calculate the pagination query offset. If neither offset nor limit is empty, the value of offset is used.
page_size	No	Long	Number of records displayed on each page. If neither offset nor limit is empty, the value of limit is used.
offset	No	Integer	Pagination query offset

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records displayed on each page
category_id	No	Long	Directory ID
rule_name	No	String	Quality job name
schedule_status	No	Integer	Scheduling status. Value 1 indicates that the scheduling has not started, 2 indicates that the scheduling is in progress, 3 indicates that the scheduling is completed properly, 4 indicates that the scheduling is manually stopped, and 5 indicates that the scheduling is abnormal.
schedule_period	No	Integer	Scheduling period. Value 1 indicates minute, 2 indicates hour, 3 indicates day, 4 indicates week, and 5 indicates month.
start_time	No	String	Start time (search), in <i>yyyy-MM-dd HH:mm:ss</i> format
end_time	No	String	End time (search), in <i>yyyy-MM-dd HH:mm:ss</i> format
result_status	No	Integer	Last execution result. The value can be 0 (running), 1 (abnormal), 2 (alarming), or 3 (normal).
sort	No	String	Sorting field
order	No	String	Sorting order

Request Parameters

None

Response Parameters

Status code: 200

Table 8-40 Response body parameters

Parameter	Type	Description
error_code	String	Error code. For example, DQC.0000 indicates that the request was successfully processed.
error_msg	String	Error message
data	Object	Returned data

Status code: 400**Table 8-41** Response body parameters

Parameter	Type	Description
error_code	String	Error code. For example, DQC.0000 indicates that the request was successfully processed.
error_msg	String	Error message
data	Object	Returned data

Status code: 401**Table 8-42** Response body parameters

Parameter	Type	Description
error_code	String	Error code. For example, DQC.0000 indicates that the request was successfully processed.
error_msg	String	Error message
data	Object	Returned data

Status code: 403**Table 8-43** Response body parameters

Parameter	Type	Description
error_code	String	Error code. For example, DQC.0000 indicates that the request was successfully processed.

Parameter	Type	Description
error_msg	String	Error message
data	Object	Returned data

Example Requests

None

Example Responses

Status code: 200

The operation succeeds. Data is returned.

```
{
  "data" : {
    "num" : 100,
    "page_search_result" : [ {
      "id" : "1042745498940891137",
      "name" : "rule-name",
      "creator" : "test-user",
      "create_offset_time" : "2022-11-17T10:23:12+08:00",
      "modify_offset_time" : "2022-11-17T10:23:46+08:00",
      "dw_name" : "",
      "db_name" : "",
      "schedule_status" : 1,
      "calc_offset_time" : "2022-11-17T10:51:59+08:00"
    } ]
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListQualityTaskListsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";
```

```
ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListQualityTaskListsRequest request = new ListQualityTaskListsRequest();
try {
    ListQualityTaskListsResponse response = client.listQualityTaskLists(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListQualityTaskListsRequest()
        response = client.list_quality_task_lists(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main
```

```
import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListQualityTaskListsRequest{}
    response, err := client.ListQualityTaskLists(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The operation succeeds. Data is returned.
400	BadRequest
401	Unauthorized
403	Forbidden

8.3.2 Obtaining the Quality Job List

Function

This API is used to obtain the list of quality jobs.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/quality-tasks

Table 8-44 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Table 8-45 Query Parameters

Parameter	Mandatory	Type	Description
category_id	No	Long	Directory ID
name	No	String	Quality job name
schedule_status	No	String	Scheduling status, which can be UNKNOWN (the scheduling status is unknown), NOT_START (scheduling has not started), SCHEDULING (the scheduling is in progress), FINISH_SUCCESS (the scheduling is completed properly), KILL (the scheduling is manually stopped), or RUNNING_EXCEPTION (the scheduling fails).
start_time	No	Long	Start time of the last query period. The value is a 13-digit timestamp accurate to millisecond.

Parameter	Mandatory	Type	Description
end_time	No	Long	End time of the last query period. The value is a 13-digit timestamp accurate to millisecond.
creator	No	String	Creator
limit	No	Long	Number of records displayed on each page. The maximum value is 100 .
offset	No	Long	Pagination offset. The minimum value is 0 .

Request Parameters

Table 8-46 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-47 Response body parameters

Parameter	Type	Description
count	Long	Total number of records
resources	Array of QualityTaskOverviewVO objects	Pagination data

Table 8-48 QualityTaskOverviewVO

Parameter	Type	Description
id	Long	Quality job ID
name	String	Quality job name
category_id	Long	Directory ID
schedule_status	String	Scheduling status, which can be UNKNOWN (the scheduling status is unknown), NOT_START (scheduling has not started), SCHEDULING (the scheduling is in progress), FINISH_SUCCESS (the scheduling is completed properly), KILL (the scheduling is manually stopped), or RUNNING_EXCEPTION (the scheduling fails).
schedule_period	String	Scheduling period. The value can be MINUTE , HOUR , DAY , or WEEK .
schedule_interval	String	Scheduling interval. When the scheduling period is minute, hour, or day, the scheduling interval is a number. When the scheduling period is week, the scheduling interval is days in a week, for example, MONDAY,TUESDAY .
create_time	Long	Creation time. The value is a 13-digit timestamp accurate to millisecond.
last_run_time	Long	Last execution time. The value is a 13-digit timestamp accurate to millisecond.
creator	String	Creator

Status code: 400**Table 8-49** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-50 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

Status code: 200

The API call is successful. **InstanceVO** is returned.

```
{
  "count" : 1,
  "resources" : [ {
    "id" : 1012385458115825700,
    "name" : "test",
    "category_id" : 1012384968858652700,
    "schedule_status" : "NOT_START",
    "schedule_period" : null,
    "schedule_interval" : null,
    "create_time" : 1661413102000,
    "last_run_time" : 1661413281000,
    "creator" : "ei"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListQualityTaskSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
```

```
environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListQualityTaskRequest request = new ListQualityTaskRequest();
try {
    ListQualityTaskResponse response = client.listQualityTask(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListQualityTaskRequest()
        response = client.list_quality_task(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
```

```
print(e.error_code)
print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListQualityTaskRequest{}
    response, err := client.ListQualityTask(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The API call is successful. InstanceVO is returned.
400	BadRequest
500	INTERNAL SERVER ERROR

8.3.3 Obtaining Quality Job Details

Function

This API is used to obtain the details of a quality job.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/quality-tasks/{id}

Table 8-51 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
id	Yes	String	Quality job ID

Request Parameters

Table 8-52 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-53 Response body parameters

Parameter	Type	Description
id	Long	Job ID

Parameter	Type	Description
name	String	Job name
description	String	Job description
category_id	Long	Directory ID
level	String	Alarm severity. SUGGEST indicates warning, MINOR indicates minor, MAJOR indicates major, and FATAL indicates fatal.
alarm_condition	String	Unified alarm condition
alarm_notify	Boolean	Whether to enable alarm notifications
alarm_notify_type	String	Alarm notification type. TRIGGER_ALARM indicates that an alarm is triggered. RUN_SUCCESS indicates that the execution is successful. TRIGGER_ALARM_AND_RUNNING_SUCCESS indicates that an alarm is triggered and that the execution is successful.
alarm_notify_topic	String	Notification topic name
schedule_type	String	Scheduling type. The value can be ONCE (one-off scheduling) or PERIODIC (periodic scheduling).
schedule_start_date	String	Scheduling start date
schedule_end_date	String	Scheduling end date
schedule_period	String	Scheduling period. The value can be MINUTE, HOUR, DAY, or WEEK .
schedule_interval	String	Scheduling interval. When the scheduling period is minute, hour, or day, the scheduling interval is a number. When the scheduling period is week, the scheduling interval is days in a week, for example, MONDAY,TUESDAY .
schedule_start_time	String	Scheduling start time
schedule_end_time	String	Scheduling end time

Parameter	Type	Description
create_time	Long	Last execution time. The value is a 13-digit timestamp accurate to millisecond.
last_run_time	Long	Last execution time. The value is a 13-digit timestamp accurate to millisecond.
sub_rules	Array of QualityTaskRuleDetailForOpenApi objects	Sub-rules
schedule_cron	String	Scheduling cron expression

Table 8-54 QualityTaskRuleDetailForOpenApi

Parameter	Type	Description
id	Long	Sub-rule ID
sub_rule_name	String	Sub-rule name
type	String	Rule type. SingleDatabase indicates a database rule, SingleTable indicates a table rule, SingleColumn indicates a field rule, CrossColumn indicates a cross-field rule, and Customize indicates a custom rule.
template_id	Long	Rule template ID
connection	String	Data connection ID
connection_type	String	Data connection type
databases	String	Database names. Use commas (,) to separate multiple values.
sql	String	SQL script in a custom rule, which is returned for a system rule
tables	String	Table names. Use commas (,) to separate multiple values.
reference_tables	String	Reference table names in a cross-field rule. Use commas (,) to separate multiple values.
columns	String	Field names. Use commas (,) to separate multiple values.

Parameter	Type	Description
reference_columns	String	Reference field names in a cross-field rule. Use commas (,) to separate multiple values.
ignore_error	Boolean	Whether to ignore rule errors
dimension	String	Dimension, which can be Completeness, Uniqueness, Timeliness, Validity, Accuracy, or Consistency
queue	String	DLI queue
regular_expression	String	Regular expression as the rule template
template_arguments	String	Template parameters
weight	Integer	Rule weight
calculation_range	String	Calculation range
calculation_range_sql	String	Calculation range SQL
alarm_condition	String	Alarm expression
export_abnormal_table	Boolean	Whether to export abnormal data
abnormal_table_database	String	Database where the abnormal table is located
abnormal_table_schema	String	Abnormal table schema
abnormal_table	String	Table where abnormal fields are located
abnormal_table_prefix	String	Abnormal table prefix
abnormal_table_suffix	String	Abnormal table suffix
abnormal_table_columns	String	Names of abnormal fields. Use commas (,) to separate multiple values.
abnormal_table_sql	String	Abnormal table SQL
abnormal_table_output_config	Boolean	Whether the abnormal table outputs rule configuration

Parameter	Type	Description
abnormal_table_include_null_value	Boolean	Whether the abnormal table contains null values
abnormal_table_output_data_number	Integer	Number of rows output from the abnormal table. Value 0 indicates that all rows are output.
score_switch	Boolean	Whether to enable quality scoring
score_schema	String	Schema where the quality scoring table is located
score_table	String	Name of the quality scoring table
score_expression	String	Quality scoring expression

Status code: 400

Table 8-55 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-56 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

Status code: 200

The API call is successful. **InstanceVO** is returned.

```
{
  "id" : 1012385458115825700,
  "name" : "test",
  "description" : "",
  "level" : "SUGGEST",
  "alarm_condition" : "",
  "alarm_notify" : false,
  "alarm_notify_type" : null,
  "alarm_notify_topic" : "",
  "schedule_type" : "ONCE",
  "schedule_start_date" : null,
  "schedule_end_date" : null,
  "schedule_period" : null,
  "schedule_interval" : null,
  "schedule_start_time" : null,
  "schedule_end_time" : null,
  "category_id" : 1012384968858652700,
  "create_time" : 1661413102000,
  "last_run_time" : 1661413281000,
  "sub_rules" : [ {
    "id" : 1012385458417815600,
    "sub_rule_name" : "qwe",
    "type" : "SingleTable",
    "connection" : "43b9e6315eda4918970cfcbbfb74cb1",
    "connection_type" : "DWS",
    "databases" : "1_database",
    "sql" : "select count(1) from 1_database.dqc_test2 where 1=1",
    "tables" : "1_database.dqc_test2",
    "reference_tables" : null,
    "columns" : "",
    "reference_columns" : null,
    "ignore_error" : false,
    "dimension" : "Accuracy",
    "queue" : "dlf_notdelete",
    "regular_expression" : null,
    "template_arguments" : "",
    "weight" : 5,
    "calculation_range" : "FULL_SCAN",
    "calculation_range_sql" : null,
    "alarm_condition" : "${1}<0",
    "export_abnormal_table" : false,
    "abnormal_table_database" : null,
    "abnormal_table_schema" : null,
    "abnormal_table" : "",
    "abnormal_table_prefix" : null,
    "abnormal_table_suffix" : null,
    "abnormal_table_columns" : null,
    "abnormal_table_sql" : "",
    "abnormal_table_out_config" : false,
    "abnormal_table_include_null_value" : false,
    "abnormal_table_out_data_number" : 0,
    "score_switch" : false,
    "score_schema" : null,
    "score_table" : null,
    "score_expression" : "",
    "template_id" : 1
  } ],
  "schedule_cron" : ""
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowQualityTaskDetailSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowQualityTaskDetailRequest request = new ShowQualityTaskDetailRequest();
        request.withId("{id}");
        try {
            ShowQualityTaskDetailResponse response = client.showQualityTaskDetail(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
```

example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ShowQualityTaskDetailRequest()
    request.id = "{id}"
    response = client.show_quality_task_detail(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowQualityTaskDetailRequest{}
    request.Id = "{id}"
    response, err := client.ShowQualityTaskDetail(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The API call is successful. InstanceVO is returned.
400	BadRequest
500	INTERNAL SERVER ERROR

8.3.4 Deleting Quality Jobs

Function

This API is used to delete quality jobs.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/quality/quality-tasks/batch-delete

Table 8-57 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Request Parameters

Table 8-58 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain it, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token. For details about how to obtain it, see Authentication .

Table 8-59 Request body parameters

Parameter	Mandatory	Type	Description
[items]	Yes	Array of integers	IDs of the quality jobs to be deleted

Response Parameters

Status code: 200

Table 8-60 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 400

Table 8-61 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-62 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

Delete quality jobs whose IDs are 1283480044387540993 and 1279033542491521025.

```
POST https://{endpoint}/v2/{project_id}/quality/quality-tasks/batch-delete
```

```
[ 1283480044387540993, 1279033542491521025 ]
```

Example Responses

Status code: 200

Success

```
{  
  "error_code" : "DLG.2700",  
  "error_msg" : "Successful"  
}
```

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.4 Comparison Jobs

8.4.1 Obtaining the Comparison Job List

Function

This API is used to obtain the list of comparison jobs.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/consistency-tasks

Table 8-63 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Table 8-64 Query Parameters

Parameter	Mandatory	Type	Description
category_id	No	Long	Directory ID
name	No	String	Name
schedule_status	No	String	Scheduling status, which can be UNKNOWN (the scheduling status is unknown), NOT_START (scheduling has not started), SCHEDULING (the scheduling is in progress), FINISH_SUCCESS (the scheduling is completed properly), KILL (the scheduling is manually stopped), or RUNNING_EXCEPTION (the scheduling fails).
start_time	No	Long	Start time of the last query period. The value is a 13-digit timestamp accurate to millisecond.
end_time	No	Long	End time of the last query period. The value is a 13-digit timestamp accurate to millisecond.
creator	No	String	Creator
limit	No	Long	Number of records displayed on each page. The maximum value is 100 .
offset	No	Long	Pagination offset. The minimum value is 0 .

Request Parameters

Table 8-65 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-66 Response body parameters

Parameter	Type	Description
count	Long	Total number of records
resources	Array of QualityTaskOverviewVO_2 objects	Pagination data

Table 8-67 QualityTaskOverviewVO_2

Parameter	Type	Description
id	Long	Comparison job ID
name	String	Comparison job name
category_id	Long	Directory ID
schedule_status	String	Scheduling status, which can be UNKNOWN (the scheduling status is unknown), NOT_START (scheduling has not started), SCHEDULING (the scheduling is in progress), FINISH_SUCCESS (the scheduling is completed properly), KILL (the scheduling is manually stopped), or RUNNING_EXCEPTION (the scheduling fails).

Parameter	Type	Description
schedule_period	String	Scheduling period. The value can be MINUTE, HOUR, DAY, or WEEK.
schedule_interval	String	Scheduling interval. When the scheduling period is minute, hour, or day, the scheduling interval is a number. When the scheduling period is week, the scheduling interval is days in a week, for example, MONDAY,TUESDAY.
create_time	Long	Creation time. The value is a 13-digit timestamp accurate to millisecond.
last_run_time	Long	Last running time. The value is a 13-digit timestamp accurate to millisecond.
creator	String	Creator

Status code: 400

Table 8-68 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-69 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

Status code: 200

Response. If the operation is successful, **InstanceVO** is returned.

```
{
  "count" : 1,
  "resources" : [ {
    "id" : 1012386182149165000,
    "name" : "test",
    "category_id" : 0,
    "schedule_status" : "NOT_START",
    "schedule_period" : null,
    "schedule_interval" : null,
    "create_time" : 1661413275050,
    "last_run_time" : null,
    "creator" : "ei"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListConsistencyTaskSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListConsistencyTaskRequest request = new ListConsistencyTaskRequest();
        try {
            ListConsistencyTaskResponse response = client.listConsistencyTask(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        }
    }
}
```

```
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListConsistencyTaskRequest()
        response = client.list_consistency_task(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"
```

```
auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ListConsistencyTaskRequest{}
response, err := client.ListConsistencyTask(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Response. If the operation is successful, InstanceVO is returned.
400	BadRequest
500	INTERNAL SERVER ERROR

8.4.2 Obtaining Comparison Job Details

Function

This API is used to obtain the details of a comparison job.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/consistency-tasks/{id}

Table 8-70 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
id	Yes	String	Comparison job ID

Request Parameters

Table 8-71 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-72 Response body parameters

Parameter	Type	Description
id	Long	Job ID
name	String	Job name
description	String	Job description
category_id	Long	Catalog ID
level	String	Alarm severity. SUGGEST indicates warning, MINOR indicates minor, MAJOR indicates major, and FATAL indicates fatal.
alarm_condition	String	Unified alarm condition
alarm_notify	Boolean	Whether to enable alarm notifications

Parameter	Type	Description
alarm_notify_type	String	Alarm notification type. TRIGGER_ALARM indicates that an alarm is triggered. RUN_SUCCESS indicates that the execution is successful. TRIGGER_ALARM_AND_RUNNING_SUCCESS indicates that an alarm is triggered and that the execution is successful.
alarm_notify_topic	String	Notification topic name
schedule_type	String	Scheduling type. The value can be ONCE (one-off scheduling) or PERIODIC (periodic scheduling).
schedule_period	String	Scheduling period. The value can be MINUTE, HOUR, DAY, or WEEK .
schedule_interval	String	Scheduling interval. When the scheduling period is minute, hour, or day, the scheduling interval is a number. When the scheduling period is week, the scheduling interval is days in a week, for example, MONDAY,TUESDAY .
schedule_start_time	String	Scheduling start time
schedule_end_time	String	Scheduling end time
create_time	Long	Last execution time. The value is a 13-digit timestamp accurate to millisecond.
last_run_time	Long	Last execution time. The value is a 13-digit timestamp accurate to millisecond.
sub_rules	Array of ConsistencyRuleDetailForOpenApi objects	Sub-rules

Table 8-73 ConsistencyRuleDetailForOpenApi

Parameter	Type	Description
id	Long	Sub-rule ID

Parameter	Type	Description
sub_rule_name	String	Sub-rule name
type	String	Rule type. SingleDatabase indicates a database rule, SingleTable indicates a table rule, SingleColumn indicates a field rule, CrossColumn indicates a cross-field rule, and Customize indicates a custom rule.
template_id	Long	Rule template ID
connection	String	Data connection ID
connection_type	String	Data connection type
databases	String	Database names. Use commas (,) to separate multiple values.
sql	String	SQL script in the custom rule
tables	String	Table names. Use commas (,) to separate multiple values.
reference_tables	String	Reference table names. Use commas (,) to separate multiple values.
columns	String	Field names. Use commas (,) to separate multiple values.
reference_columns	String	Reference column names. Use commas (,) to separate multiple values.
dimension	String	Dimension
queue	String	DLI queue
regular_expression	String	Regular expression as the rule template
template_arguments	String	Template parameters
weight	Integer	Rule weight
calculation_range	String	Calculation range
calculation_range_sql	String	Calculation range SQL
alarm_condition	String	Alarm expression

Status code: 400

Table 8-74 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-75 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

Status code: 200

The API call is successful. **InstanceVO** is returned.

```
{
  "id" : 1012386182149165000,
  "name" : "test",
  "description" : "",
  "level" : "SUGGEST",
  "alarm_condition" : null,
  "alarm_notify" : false,
  "alarm_notify_type" : null,
  "alarm_notify_topic" : null,
  "schedule_type" : "ONCE",
  "schedule_period" : null,
  "schedule_interval" : null,
  "schedule_start_time" : null,
  "schedule_end_time" : null,
  "category_id" : 0,
  "create_time" : 1661413275050,
  "last_run_time" : null,
  "sub_rules" : [ {
    "id" : 1012386182602149900,
    "sub_rule_name" : "qew",
    "type" : "SingleTable",
    "connection" : "43b9e6315eda4918970cfcbbbf74cb1",
    "connection_type" : "DWS",
    "databases" : "1_database",
    "sql" : "",
    "tables" : "1_database.dqc_test2",
```

```
"reference_tables" : null,
"columns" : "",
"reference_columns" : null,
"dimension" : null,
"queue" : "dlf_notdelete",
"regular_expression" : null,
"template_arguments" : null,
"weight" : 5,
"calculation_range" : "FULL_SCAN",
"calculation_range_sql" : "",
"alarm_condition" : "${1_1}>${2_1}",
"template_id" : 1
}, {
  "id" : 1012386182631510000,
  "sub_rule_name" : "qew",
  "type" : "SingleTable",
  "connection" : "43b9e6315eda4918970cfcbbbf74cb1",
  "connection_type" : "DWS",
  "databases" : "1_database",
  "sql" : "",
  "tables" : "1_database.dqc_test2",
  "reference_tables" : null,
  "columns" : "",
  "reference_columns" : null,
  "dimension" : null,
  "queue" : "dlf_notdelete",
  "regular_expression" : null,
  "template_arguments" : null,
  "weight" : 5,
  "calculation_range" : "FULL_SCAN",
  "calculation_range_sql" : "",
  "alarm_condition" : "${1_1}>${2_1}",
  "template_id" : 1
} ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowConsistencyTaskDetailSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
```

```
.withAk(ak)
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ShowConsistencyTaskDetailRequest request = new ShowConsistencyTaskDetailRequest();
request.withId("{id}");
try {
    ShowConsistencyTaskDetailResponse response = client.showConsistencyTaskDetail(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowConsistencyTaskDetailRequest()
        request.id = "{id}"
        response = client.show_consistency_task_detail(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
```

```
"fmt"  
"github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build()  
    )  
  
    request := &model.ShowConsistencyTaskDetailRequest{}  
    request.Id = "{id}"  
    response, err := client.ShowConsistencyTaskDetail(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The API call is successful. InstanceVO is returned.
400	BadRequest
500	INTERNAL SERVER ERROR

8.4.3 Deleting Comparison Jobs

Function

This API is used to delete comparison jobs.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/quality/consistency-tasks/batch-delete

Table 8-76 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Request Parameters

Table 8-77 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain it, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain it, see Authentication .

Table 8-78 Request body parameters

Parameter	Mandatory	Type	Description
[items]	Yes	Array of integers	IDs of the comparison jobs to be deleted

Response Parameters

Status code: 200

Table 8-79 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 400**Table 8-80** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500**Table 8-81** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

Delete comparison jobs whose IDs are 1283480044387540993 and 1279033542491521025.

```
POST https://{endpoint}/v2/{project_id}/quality/consistency-tasks/batch-delete
```

```
[ 1283480044387540993, 1279033542491521025 ]
```

Example Responses

Status code: 200

Success

```
{  
  "error_code" : "DLG.2700",
```



```
"error_msg" : "Successful"
}
```

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.5 O&M

8.5.1 Obtaining the Task Execution Result List

Function

This API is used to obtain the list of task execution results.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/instances

Table 8-82 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Table 8-83 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Rule name
task_type	No	String	Task instance type. Value QUALITY_TASK indicates a quality job and value CONSISTENCY_TASK indicates a comparison job.

Parameter	Mandatory	Type	Description
run_status	No	String	Status. The value can be RUNNING , FAILED , ALARMING , SUCCESS , SUSPENDING , or UNKNOWN .
notify_status	No	String	Notification status. The value can be NOT_TRIGGERED , SUCCESS , or FAILED .
start_time	No	Long	Start time of the last query period. The value is a 13-digit timestamp accurate to millisecond.
end_time	No	Long	End time of the last query period. The value is a 13-digit timestamp accurate to millisecond.
limit	No	Integer	Number of records displayed on each page. The maximum value is 100 .
offset	No	Integer	Paging offset

Request Parameters

Table 8-84 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-85 Response body parameters

Parameter	Type	Description
count	Integer	Quantity
resources	Array of InstanceOverviewVo objects	Resources

Table 8-86 InstanceOverviewVo

Parameter	Type	Description
id	Long	Job instance ID
name	String	Job instance name
task_id	Long	task id
task_type	String	Job type. Value QUALITY_TASK indicates a quality job and value CONSISTENCY_TASK indicates a comparison job.
run_status	String	Job running status. The value can be RUNNING, FAILED, ALARMING, or SUCCESS.
notify_status	String	Notification status. The value can be NOT_TRIGGERED, SUCCESS, or FAILED.
start_time	Long	Start time
end_time	Long	End time

Status code: 400**Table 8-87** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-88 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

Status code: 200

Success

```
{
  "count" : 2,
  "resources" : [ {
    "id" : 1012386207306600400,
    "name" : "test-1",
    "task_id" : 1012385458115825700,
    "task_type" : "QUALITY_TASK",
    "run_status" : "SUCCESS",
    "notify_status" : "NOT_TRIGGERED",
    "start_time" : 1661413281000,
    "end_time" : 1661413381000
  }, {
    "id" : 1012386190504218600,
    "name" : "test-0",
    "task_id" : 1012386182149165000,
    "task_type" : "CONSISTENCY_TASK",
    "run_status" : "SUCCESS",
    "notify_status" : "NOT_TRIGGERED",
    "start_time" : 1661413277000,
    "end_time" : 1661413380000
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;
```

```
public class ListInstancesSolution {
    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListInstancesRequest request = new ListInstancesRequest();
        try {
            ListInstancesResponse response = client.listInstances(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListInstancesRequest()
        response = client.list_instances(request)
```

```
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListInstancesRequest{}
    response, err := client.ListInstances(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	BadRequest

Status Code	Description
500	INTERNAL SERVER ERROR

8.5.2 Obtaining the Instance Result

Function

This API is used to obtain the instance result.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/instances/{instance_id}/result

Table 8-89 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
instance_id	Yes	String	Project ID

Request Parameters

Table 8-90 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-91 Response body parameters

Parameter	Type	Description
count	Integer	Total number of records
resources	Array of SubInstanceResult objects	Resource configuration ID for a subjob instance

Table 8-92 SubInstanceResult

Parameter	Type	Description
sub_rule_id	String	Sub-rule ID
sub_instance_instance_id	String	Sub-rule instance ID
abnormal_table_status	String	Abnormal table task status. Value UNSUPPORTED indicates that abnormal tables are not supported, READY indicates that the abnormal table is being prepared, RUNNING indicates that the abnormal table task is running, FAILED indicates that the abnormal table task fails, and SUCCESS indicates that the abnormal table task is successfully executed.
results	Array of objects	Result set

Status code: 500**Table 8-93** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

Status code: 200

Success

```
{
  "count" : 2,
  "resources" : [ {
    "sub_rule_id" : "1012386182602149888",
    "sub_instance_instance_id" : "1012386190718128129",
    "abnormal_table_status" : "UNSUPPORTED",
    "results" : [ {
      "Total Rows" : "4",
      "Status" : "false",
      "Name" : "1_database.dqc_test2"
    } ]
  }, {
    "sub_rule_id" : "1012386182631510017",
    "sub_instance_instance_id" : "1012386190718128128",
    "abnormal_table_status" : "UNSUPPORTED",
    "results" : [ {
      "Total Rows" : "4",
      "Status" : "false",
      "Name" : "1_database.dqc_test2"
    } ]
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowInstanceResultSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```

```
        .build();
        ShowInstanceResultRequest request = new ShowInstanceResultRequest();
        request.withInstanceId("{instance_id}");
        try {
            ShowInstanceResultResponse response = client.showInstanceResult(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowInstanceResultRequest()
        request.instance_id = "{instance_id}"
        response = client.show_instance_result(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)
```

```
func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowInstanceResultRequest{}
    request.InstanceId = "{instance_id}"
    response, err := client.ShowInstanceResult(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
500	INTERNAL SERVER ERROR

8.5.3 Data quality O&M management operation processing and recording

Function

This API is used to handle problems of data quality monitoring instances. On the console, you can choose More > Handling & Record to go to the problem handling page.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v2/{project_id}/quality/instances/{instance_id}

Table 8-94 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
instance_id	Yes	String	Instance ID. For details about how to obtain the instance ID, see Instance ID and Workspace ID .

Request Parameters

Table 8-95 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Table 8-96 Request body parameters

Parameter	Mandatory	Type	Description
detail	No	String	This field is used only when you enter handling comments or close an issue. Enter related comments or closure description.

Parameter	Mandatory	Type	Description
operator	No	String	This field is used only when the problem is handed over to others. Select the handover owner.
open	No	Boolean	Issue handling method. false indicates closing the issue. true indicates the issue handling suggestion or handling the issue to others.
cancel_run	No	Boolean	Whether to cancel the task. If the task is canceled, it will be stopped immediately. Value false means to cancel the task, and value true means not to cancel the task.

Response Parameters

Status code: 200

Table 8-97 Response body parameters

Parameter	Type	Description
data	String	Returned information

Status code: 500

Table 8-98 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	Success
500	INTERNAL SERVER ERROR

8.6 Quality Reports

8.6.1 Obtaining a Quality Report Scoring System

Function

This API is used to obtain the scoring system for quality reports.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/report/scoring

Table 8-99 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 8-100 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-101 Response body parameters

Parameter	Type	Description
full_score	Integer	Full score

Status code: 400

Table 8-102 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-103 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

```
GET /v2/0833a5737480d53b2f25c010dc1a7b88/quality/report/scoring
```

Example Responses

Status code: 200

Success

```
{  
  "full_score" : 100  
}
```

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.6.2 Obtaining the Quality Report Overview

Function

This API is used to obtain the quality report overview.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/report/overview

Table 8-104 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 8-105 Query Parameters

Parameter	Mandatory	Type	Description
quality_score_dimension	Yes	String	Quality scoring dimension.
l1	No	String	Subject area group (valid for business reports).

Parameter	Mandatory	Type	Description
l2	No	String	Subject area (valid for business reports).
l3	No	String	Business object (valid for business reports).
data_connection_id	No	String	Data connection ID (valid for technical reports).
database_name	No	String	Database name (valid for technical reports).
table_name	No	String	Data table name (valid for technical reports).
start_timestamp	No	Long	Start timestamp.
end_timestamp	No	Long	End timestamp.

Request Parameters

Table 8-106 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-107 Response body parameters

Parameter	Type	Description
score	Double	Total score

Parameter	Type	Description
ranges	Array of ScoreRangeVO objects	List and number of ranges

Table 8-108 ScoreRangeVO

Parameter	Type	Description
count	Integer	Quantity
name	String	Range name

Status code: 400

Table 8-109 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-110 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

```
GET /v2/0833a5737480d53b2f25c010dc1a7b88/quality/report/overview?  
data_connection_id=2d9dcb2076b34bbab1c675f070d6af9d&quality_score_dimension=technology
```

Example Responses

Status code: 200

Success

```
{
  "score": 56.75,
  "ranges": [ {
    "count": 9,
    "name": "80-100"
  }, {
    "count": 2,
    "name": "60-80"
  }, {
    "count": 2,
    "name": "40-60"
  }, {
    "count": 6,
    "name": "0-20"
  } ]
}
```

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.6.3 Obtaining the Quality Report Trend

Function

This API is used to obtain the quality report trend.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/report/trend

Table 8-111 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 8-112 Query Parameters

Parameter	Mandatory	Type	Description
quality_score_dimension	Yes	String	Quality scoring dimension.
l1	No	String	Subject area group (valid for business reports).
l2	No	String	Subject area (valid for business reports).
l3	No	String	Business object (valid for business reports).
data_connection_id	No	String	Data connection ID (valid for technical reports).
database_name	No	String	Database name (valid for technical reports).
table_name	No	String	Data table name (valid for technical reports).
start_timestamp	No	Long	Start timestamp.
end_timestamp	No	Long	End timestamp.

Request Parameters

Table 8-113 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-114 Response body parameters

Parameter	Type	Description
trends	Array of ScoreTrendVO objects	ScoreTrendVO , which is the array of score change trends

Table 8-115 ScoreTrendVO

Parameter	Type	Description
score	Double	Score
timestamp	String	Timestamp

Status code: 400

Table 8-116 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-117 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

```
GET /v2/0833a5737480d53b2f25c010dc1a7b88/quality/report/trend?
data_connection_id=2d9dcb2076b34bbab1c675f070d6af9d&quality_score_dimension=technology
```

Example Responses

Status code: 200

Success

```
{
  "trends" : [ {
    "score" : 57.63,
    "timestamp" : "1669132800000"
  }, {
    "score" : 56.92,
    "timestamp" : "1669219200000"
  }, {
    "score" : 60.27,
    "timestamp" : "1669305600000"
  }, {
    "score" : 59.54,
    "timestamp" : "1669392000000"
  }, {
    "score" : 65.07,
    "timestamp" : "1669478400000"
  }, {
    "score" : 57.19,
    "timestamp" : "1669564800000"
  }, {
    "score" : 56.75,
    "timestamp" : "1669651200000"
  } ]
}
```

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.6.4 Obtaining the Quality Report Rules

Function

This API is used to obtain quality report rules.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/report/rules

Table 8-118 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 8-119 Query Parameters

Parameter	Mandatory	Type	Description
data_connection_id	No	String	Data connection ID. If you want to obtain the technical report rule score, set data_connection_id, database_name and table_name.
database_name	No	String	Name of the database. If you want to obtain the score of the technical report rule, you must set data_connection_id, database_name and table_name.
table_name	No	String	Table name. If you want to obtain the score of the technical report rule, you must set data_connection_id, database_name and table_name.
table_object_name	No	String	Data table object name (data connection.database.schema table/table). If the service report rule score is obtained, you do not need to set data_connection_id, database_name and table_name. You only need to set table_object_name.
start_timestamp	No	Long	Start timestamp.
end_timestamp	No	Long	End timestamp.
limit	No	Long	Number of records on each page. The value range is [0,100].

Parameter	Mandatory	Type	Description
offset	No	Long	Pagination offset. The minimum value is 0.

Request Parameters

Table 8-120 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-121 Response body parameters

Parameter	Type	Description
count	Integer	Number of data records
rules	Array of BusinessScoreRuleVO objects	Number of business score rules

Table 8-122 BusinessScoreRuleVO

Parameter	Type	Description
rule_name	String	Rule name
type	Integer	Rule type. The value can be 0 (custom) or 1 (system).
score	Double	Rule score
rule_id	String	Rule ID, which is used to switch to the rule details page

Parameter	Type	Description
instance_id	String	Rule instance ID, which is used to switch to the result page
scoring_weight	Integer	Rule weight
rule_type_name	String	Rule type name
dimension_name	String	Rule dimension
sub_rule_instance_id	String	Sub-rule instance ID

Status code: 400

Table 8-123 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-124 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

```
GET /v2/0833a5737480d53b2f25c010dc1a7b88/quality/report/rules?
data_connection_id=2d9dcb2076b34bbab1c675f070d6af9d&database_name=postgres&table_name=public.te
st
```

Example Responses

Status code: 200

Success

```
{
  "count" : 1,
```

```
"rules": [ {
  "rule_name": "test",
  "type": 0,
  "score": 0.0,
  "rule_id": "1044554894322835457",
  "instance_id": "1047298515736334336",
  "scoring_weight": 5,
  "rule_type_name": "Data table null value scan",
  "dimension_name": "Completeness",
  "sub_rule_instance_id": "1047298617787944960"
} ]
}
```

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.6.5 Obtaining Sub-rule Fields of a Quality Report

Function

This API is used to obtain the score of a sub-rule field in a quality report.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/report/sub-rule/results

Table 8-125 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 8-126 Query Parameters

Parameter	Mandatory	Type	Description
data_connection_id	No	String	Data connection ID. If you want to obtain the technical report rule score, set data_connection_id, database_name and table_name.
database_name	No	String	Name of the database. If you want to obtain the score of the technical report rule, you must set data_connection_id, database_name and table_name.
table_name	No	String	Table name. If you want to obtain the score of the technical report rule, you must set data_connection_id, database_name and table_name.
table_object_name	No	String	Data table object name (data connection.database.schema table/table). If the service report rule score is obtained, you do not need to set data_connection_id, database_name and table_name. You only need to set table_object_name.
sub_rule_instance_id	Yes	String	Sub-rule instance ID
start_timestamp	No	Long	Start timestamp.
end_timestamp	No	Long	End timestamp.
limit	No	Long	Number of records on each page. The value range is [0,100].
offset	No	Long	Pagination offset. The minimum value is 0.

Request Parameters

Table 8-127 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-128 Response body parameters

Parameter	Type	Description
header	Array of strings	Table header
rows	Array<Array<String>>	Table rows
count	Integer	Number of data rows, which is used for pagination

Status code: 400

Table 8-129 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-130 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

```
GET /v2/0833a5737480d53b2f25c010dc1a7b88/quality/report/sub-rule/results?
data_connection_id=2d9dcb2076b34bbab1c675f070d6af9d&database_name=postgres&table_name=public.te
st&sub_rule_instance_id=1047298617787944960
```

Example Responses

Status code: 200

Success

```
{
  "count" : 1,
  "header" : [ "Field name", "Rule description", "Score", "Field weight", "Number of rows with a null value",
"Total number of rows", "Null value rate", "Alarm status" ],
  "rows" : [ [ "postgres.public.test.name", "Data table null value scan", "0.0", "5", "0", "0", "1.0", "false" ] ]
}
```

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.6.6 Obtaining the Technical Report Data

Function

This API is used to obtain a technical report.

Calling Method

For details, see [Calling APIs](#).

URI

```
GET /v2/{project_id}/quality/report/technology/scores
```

Table 8-131 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 8-132 Query Parameters

Parameter	Mandatory	Type	Description
data_connection_id	No	String	Data connection ID, which is obtained from the management center.
database_name	No	String	Specifies the database name.
table_name	No	String	Specifies the name of the table.
data_connection_score_order	No	String	Sorting order for data connections. Value 0 indicates the ascending order, and value 1 indicates the descending order. This order is mutually exclusive with other sorting conditions.
database_score_order	No	String	Sorting order for database scores. Value 0 indicates the ascending order, and value 1 indicates the descending order. This order is mutually exclusive with other sorting conditions.
table_score_order	No	String	Sorting order for data table scores. Value 0 indicates the ascending order, and value 1 indicates the descending order. This order is mutually exclusive with other sorting conditions.
start_timestamp	No	Long	Start timestamp.
end_timestamp	No	Long	End timestamp.

Parameter	Mandatory	Type	Description
limit	No	Long	Number of records on each page. The value range is [0,100].
offset	No	Long	Pagination offset. The minimum value is 0.

Request Parameters

Table 8-133 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-134 Response body parameters

Parameter	Type	Description
count	Integer	Number of data records
scores	Array of TechScoreVo objects	Returned score list

Table 8-135 TechScoreVo

Parameter	Type	Description
data_connection_id	String	Data connection ID
data_connection_name	String	Data connection name

Parameter	Type	Description
database_name	String	Database name
table_name	String	Table name
data_connection_score	Double	Data connection score
database_score	Double	Database score
table_score	Double	Table score

Status code: 400**Table 8-136** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500**Table 8-137** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

```
GET /v2/0833a5737480d53b2f25c010dc1a7b88/quality/report/technology/scores
```

Example Responses

Status code: 200

Success

```
{  
  "count": 1,  
  "scores": [{  
    "data_connection_id": "2d9dcb2076b34bbab1c675f070d6af9d",  
    "data_connection_name": "dws",
```



```

    "data_connection_score" : 65.0,
    "database_name" : "postgres",
    "database_score" : 65.0,
    "table_name" : "public.test",
    "table_score" : 0.0
  } ]
}

```

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.6.7 Obtaining the Business Report Data

Function

This API is used to obtain a business report.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/report/business/scores

Table 8-138 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 8-139 Query Parameters

Parameter	Mandatory	Type	Description
table_name	No	String	Specifies the name of the table.
l1	No	String	Subject area group.

Parameter	Mandatory	Type	Description
l2	No	String	Subject area.
l3	No	String	Business object.
l1_score_order	No	String	Sorting order for subject area groups. Value 0 indicates the ascending order, and value 1 indicates the descending order. This order is mutually exclusive with other sorting conditions.
l2_score_order	No	String	Sorting order for subject areas. Value 0 indicates the ascending order, and value 1 indicates the descending order. This order is mutually exclusive with other sorting conditions.
l3_score_order	No	String	Sorting order for business objects. Value 0 indicates the ascending order, and value 1 indicates the descending order. This order is mutually exclusive with other sorting conditions.
table_score_order	No	String	Sorting order for data table scores. Value 0 indicates the ascending order, and value 1 indicates the descending order. This order is mutually exclusive with other sorting conditions.
start_timestamp	No	Long	Start timestamp.
end_timestamp	No	Long	End timestamp.
limit	No	Long	Number of records on each page. The value range is [0,100].
offset	No	Long	Pagination offset. The minimum value is 0 .

Request Parameters

Table 8-140 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-141 Response body parameters

Parameter	Type	Description
count	Integer	Number of data records
scores	Array of BusinessScoreVO objects	Returned BusinessScoreVO

Table 8-142 BusinessScoreVO

Parameter	Type	Description
id	String	Score ID
l1	String	Subject area group
l2	String	Subject area
l3	String	Business object
table_name	String	Table object name in the format of <i>Data connection.Database.Schema table/Table</i> .
l1_score	Double	Subject area group score
l2_score	Double	Subject area score
l3_score	Double	Business object score

Parameter	Type	Description
table_score	Double	Table score

Status code: 400

Table 8-143 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Status code: 500

Table 8-144 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

```
GET /v2/0833a5737480d53b2f25c010dc1a7b88/quality/report/business/scores
```

Example Responses

Status code: 200

Success

```
{
  "count" : 1,
  "scores" : [ {
    "id" : "1047319323363946496",
    "l1" : "test",
    "l2" : null,
    "l3" : null,
    "table_name" : "2d9dcb2076b34bbab1c675f070d6af9d.postgres.public.test",
    "l1_score" : 83.33,
    "l2_score" : null,
    "l3_score" : null,
    "table_score" : 83.33
  } ]
}
```

Status Codes

Status Code	Description
200	Success
400	BadRequest
500	INTERNAL SERVER ERROR

8.7 Import/Export

8.7.1 Export Resources

Function

This API is used to export resources from DataArts Quality, such as quality jobs and comparison jobs.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/quality/resource/export

Table 8-145 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 8-146 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Table 8-147 Request body parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Type of the resources to be exported in batches. rule-template indicates quality rule templates, quality-task indicates quality jobs, consistency-task indicates comparison jobs, and report indicates quality reports.
is_select_all	No	Boolean	Whether to export all jobs in the current workspace. Value true indicates that all jobs are to be exported, and value false indicates that not all jobs are to be exported. The default value is false .
resources	No	Array of longs	Resource ID array
export_mode	No	String	Export mode. null indicates that data is to be exported to a local file system, and obs indicates that data is to be exported to OBS. This parameter is available only for exporting quality reports.
obs_service_type	No	String	Service type. Value technology indicates a technical report, and value business indicates a business report. This parameter is available only for exporting quality reports.

Response Parameters

Status code: 200

Table 8-148 Response body parameters

Parameter	Type	Description
resource_id	String	Returned export task ID

Status code: 500**Table 8-149** Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	Success
500	INTERNAL SERVER ERROR

8.7.2 Obtaining the Status of an Import/Export Task

Function

This API is used to obtain the progress of an export or import task.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/resource/status/{resource_id}

Table 8-150 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
resource_id	Yes	String	ID of the resource export/import task. It can be obtained from the return of the API for exporting resources or importing resources .

Request Parameters

Table 8-151 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-152 Response body parameters

Parameter	Type	Description
id	String	Record ID
resource_id	String	ID of the resource export or import task
resource_type	String	Resource type
action	String	Operation type. EXPORT indicates export, and REPORT indicates import.
file_name	String	Resource file name

Parameter	Type	Description
start_time	String	Start time
end_time	String	End time
status	String	Task status. WAITING indicates that the task is waiting to be executed, RUNNING indicates that the task is being executed, TIMEOUT indicates that the task times out, FAILED indicates that the task fails, and SUCCESS indicates that the task is executed successfully.
error_msg	String	Error message
project_id	String	Project ID
domain_id	String	User ID
user_name	String	Username
export_resources	String	Resources to be exported. This parameter is left blank by default.
import_body	String	Import body. This parameter is left blank by default.
file_status	String	File status. PREPARING indicates that the file is being prepared. GENERATED indicates that the file is ready. DELETED indicates that the file has been deleted. FAILED indicates that the file fails to be uploaded or generated.

Status code: 500

Table 8-153 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	Success
500	INTERNAL SERVER ERROR

8.7.3 Downloading a Resource File

Function

This API is used to download a resource file.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v2/{project_id}/quality/resource/download

Table 8-154 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 8-155 Query Parameters

Parameter	Mandatory	Type	Description
resource_id	Yes	String	ID of the resource export/import task. It can be obtained from the return of the API for exporting resources or importing resources .

Parameter	Mandatory	Type	Description
obs_type	No	String	Export type. The options are technology (technical report) and business (business report). When a quality report is exported, this field is mandatory.

Request Parameters

Table 8-156 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Response Parameters

Status code: 200

Table 8-157 Response body parameters

Parameter	Type	Description
-	File	Downloaded resource file

Status code: 500

Table 8-158 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	Downloaded resource file
500	INTERNAL SERVER ERROR

8.7.4 Uploading a Resource File

Function

This API is used to import a file to DataArts Quality.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/quality/resource/upload

Table 8-159 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 8-160 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Table 8-161 FormData parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Type of the resource to be uploaded. The value can be rule-template, quality-task, or consistency-task.
file	Yes	File	Resource file to be uploaded.

Response Parameters

Status code: 200

Table 8-162 Response body parameters

Parameter	Type	Description
resource_id	String	Resource ID
topics	Array of strings	SMN topic
matched_topics	Array of MatchedTopicMs objects	Matched topics
directories	Array of strings	Directories in DataArts Quality
queues	Array of strings	Queue name
connections	Array of NameType objects	Data connection information

Table 8-163 MatchedTopicMsg

Parameter	Type	Description
id	String	Topic ID
name	String	Topic name

Table 8-164 NameType

Parameter	Type	Description
name	String	Name
type	String	Type

Status code: 500

Table 8-165 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	Success
500	INTERNAL SERVER ERROR

8.7.5 Importing Resources

Function

This API is used to import resources to DataArts Quality.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/quality/resource/import

Table 8-166 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 8-167 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain the token, see Authentication .

Table 8-168 Request body parameters

Parameter	Mandatory	Type	Description
resource_id	Yes	String	Resource ID

Parameter	Mandatory	Type	Description
type	Yes	String	Type of the resources to be imported. rule-template indicates quality rule templates, quality-task indicates quality jobs, and consistency-task indicates comparison jobs.
strategy	No	String	Policy for handling duplicate resource names during import. The value can be SKIP , OVERRIDE , or TERMINATION .
directories	No	Array of ValueMappingVO objects	Directories
topics	No	Array of ValueMappingVO objects	Alarm notification topics
connections	No	Array of ValueMappingVO objects	Connections. This parameter is available only for DLI.
queues	No	Array of ValueMappingVO objects	Queues. This parameter is available only for DLI.

Table 8-169 ValueMappingVO

Parameter	Mandatory	Type	Description
old_value	No	String	Data before mapping
new_value	No	String	Data after mapping
mapping_value	No	String	Data after mapping. The value can be empty. If the value is empty, new_value is used.

Response Parameters

Status code: 500

Table 8-170 Response body parameters

Parameter	Type	Description
error_code	String	Error code, for example, DQC.0000 which indicates that the request was successfully processed
error_msg	String	Error message

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
204	Success
500	INTERNAL SERVER ERROR

8.8 Job Instances

8.8.1 Stopping Instances

Function

This API is used to stop instances.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v2/{project_id}/quality/instances/batch-stop

Table 8-171 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .

Request Parameters

Table 8-172 Request header parameters

Parameter	Mandatory	Type	Description
workspace	Yes	String	DataArts Studio workspace ID. For details about how to obtain it, see Instance ID and Workspace ID .
X-Auth-Token	Yes	String	IAM token. For details about how to obtain it, see Authentication .

Table 8-173 Request body parameters

Parameter	Mandatory	Type	Description
[items]	Yes	Array of integers	IDs of the instances to be stopped

Response Parameters

Status code: 200

Table 8-174 Response body parameters

Parameter	Type	Description
error_code	String	Error code. For example, DQC.0000 indicates that the request was successfully processed.
error_msg	String	Error message
data	Object	Returned data

Status code: 400

Table 8-175 Response body parameters

Parameter	Type	Description
error_code	String	Error code. For example, DQC.0000 indicates that the request was successfully processed.
error_msg	String	Error message
data	Object	Returned data

Status code: 406**Table 8-176** Response body parameters

Parameter	Type	Description
error_code	String	Error code. For example, DQC.0000 indicates that the request was successfully processed.
error_msg	String	Error message
data	Object	Returned data

Status code: 500**Table 8-177** Response body parameters

Parameter	Type	Description
error_code	String	Error code. For example, DQC.0000 indicates that the request was successfully processed.
error_msg	String	Error message
data	Object	Returned data

Example Requests

Stop instances whose IDs are 1317151269261262848 and 1317151258234322945.

```
POST https://{endpoint}/v2/{project_id}/quality/instances/batch-stop
```

```
[ 1317151269261262848, 1317151258234322945 ]
```

Example Responses

Status code: 200

The API call is successful. **InstanceVO** is returned.

```
{  
  "error_code" : "DLG.2700",  
  "error_msg" : "Successful"  
}
```

Status Codes

Status Code	Description
200	The API call is successful. InstanceVO is returned.
400	BadRequest
406	NOT ACCEPTABLE
500	INTERNAL SERVER ERROR

9 DataArts DataService APIs

9.1 API Management

9.1.1 Create an API

Function

Create an API.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/apis

Table 9-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-3 Request body parameters

Parameter	Mandatory	Type	Description
catalog_id	No	String	Catalog ID.
name	No	String	API name
description	No	String	API description
log_flag	No	Boolean	Indicates whether to enable the access log function.

Parameter	Mandatory	Type	Description
api_type	No	String	API type Enumerated values: <ul style="list-style-type: none"> • API_SPECIFIC_TYPE_CONFIGURATION: configuration API • API_SPECIFIC_TYPE_SCRIPT: script API • API_SPECIFIC_TYPE_MYBATIS: MyBatis API • API_SPECIFIC_TYPE_GROOVY: Groovy API • API_SPECIFIC_TYPE_REGISTER: registered API • API_SPECIFIC_TYPE_ORCHESTRATE: orchestrated API • API_TYPE_CREATE: created API (obsolete) • API_TYPE_REGISTER: registered API (obsolete)
auth_type	No	String	Authentication mode Enumerated values: <ul style="list-style-type: none"> • APP: app secret • IAM: IAM token • NONE: authentication disabled
retention_period	No	Integer	Minimum retention period in hours
manager	No	String	API reviewer
path	No	String	API path
protocol	No	String	API request protocol type. Enumerated values: <ul style="list-style-type: none"> • PROTOCOL_TYPE_HTTP: HTTP • PROTOCOL_TYPE_HTTPS: HTTPS
request_type	No	String	Request type Enumerated values: <ul style="list-style-type: none"> • REQUEST_TYPE_POST: POST • REQUEST_TYPE_GET: GET

Parameter	Mandatory	Type	Description
tags	No	Array of strings	Tag
visibility	No	String	API visibility Enumerated values: <ul style="list-style-type: none"> ● WORKSPACE: visible to a workspace ● PROJECT: visible to a project ● DOMAIN: visible to a tenant
publish_type	No	String	Publishing type (obsolete) Enumerated values: <ul style="list-style-type: none"> ● PUBLISH_TYPE_PUBLIC: public ● PUBLISH_TYPE_PRIVATE: private
data_mask_switch	No	Boolean	Whether to enable data masking
data_mask_params	No	Array of DataMaskParams objects	Data masking parameters
body	No	String	Request body description. It is available for registration APIs only.
datasource_config_list	No	Array of DatasourceConfig objects	Configuration of multiple data sources. It is available for Groovy APIs only.
groovy_content	No	String	Groovy text. It is available for Groovy APIs only.
request_params	No	Array of RequestParam objects	List of API request parameters.
datasource_config	No	DatasourceConfig object	API data source configuration.
backend_config	No	BackendConfig object	API backend configuration. It is available for registration APIs only.

Table 9-4 DataMaskParas

Parameter	Mandatory	Type	Description
column_name	No	String	Sensitive field
algorithm_name	No	String	Algorithm name
algorithm_type	No	String	Algorithm type
en_name	No	String	Algorithm name
algorithm_parameters	No	String	Parameter
failure_policy	No	String	Failure policy Enumerated values: <ul style="list-style-type: none"> • SKIP • INTERRUPT_AND_EXCEPTION • SET_NULL • DEFAULT_VALUE

Table 9-5 DatasourceConfig

Parameter	Mandatory	Type	Description
type	No	String	Data source type. Enumerated values: <ul style="list-style-type: none"> • MYSQL • DLI • DWS • HIVE • HBASE
connection_name	No	String	Name of a data connection.
connection_id	No	String	Data connection ID.
database	No	String	Indicates the database name.
datatable	No	String	Name of a data table.
table_id	No	String	Data table ID.
queue	No	String	Queue name of DLI.

Parameter	Mandatory	Type	Description
access_mode	No	String	Mode for obtaining data Enumerated values: <ul style="list-style-type: none"> • SQL: SQL • ROW_KEY: ROW_KEY, available only for HBase • PREFIX_FILTER: PREFIX_FILTER, available only for HBase
access_type	No	String	Mode for obtaining data (obsolete) Enumerated values: <ul style="list-style-type: none"> • SCRIPT: script • CONFIGURAITON: configuration
pagination	No	String	Pagination mode Enumerated values: <ul style="list-style-type: none"> • DEFAULT: default • CUSTOM: custom
sql	No	String	SQL statement in script mode
backend_parameters	No	Array of ApiRequestPara objects	API backend parameter.
response_parameters	No	Array of ApiResponsePara objects	Return parameters of configuration APIs.
order_paras	No	Array of DatasourceOrderPara objects	Sorting parameter.
total_size_sql	No	String	SQL script for calculating the total number of records

Table 9-6 RequestPara

Parameter	Mandatory	Type	Description
name	No	String	Parameter name

Parameter	Mandatory	Type	Description
position	No	String	Parameter position Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_POSITION_PATH: request path • REQUEST_PARAMETER_POSITION_HEADER: request header • REQUEST_PARAMETER_POSITION_QUERY: request query
type	No	String	Constant parameter type Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_TYPE_NUMBER: number • REQUEST_PARAMETER_TYPE_STRING: string
description	No	String	Parameter description.
necessary	No	Boolean	Indicates whether a parameter is mandatory.
example_value	No	String	Example value
default_value	No	String	Default value.
support_null	No	Boolean	Null supported

Table 9-7 ApiRequestPara

Parameter	Mandatory	Type	Description
name	No	String	Parameter name
mapping	No	String	Mapping field.

Parameter	Mandatory	Type	Description
condition	No	String	Operator Enumerated values: <ul style="list-style-type: none"> ● CONDITION_TYPE_EQ: equal to ● CONDITION_TYPE_NE: not equal to ● CONDITION_TYPE_GT: greater than ● CONDITION_TYPE_GE: greater than or equal to ● CONDITION_TYPE_LT: less than ● CONDITION_TYPE_LE: less than or equal to ● CONDITION_TYPE_LIKE: fuzzy search, such as %like % ● CONDITION_TYPE_LIKE_L: fuzzy search, such as %like ● CONDITION_TYPE_LIKE_R: fuzzy search, such as like%

Table 9-8 ApiResponsePara

Parameter	Mandatory	Type	Description
name	No	String	Parameter name
field	No	String	Bound table field.
type	No	String	Constant parameter type Enumerated values: <ul style="list-style-type: none"> ● REQUEST_PARAMETER_TYPE_NUMBER: number ● REQUEST_PARAMETER_TYPE_STRING: string
description	No	String	Parameter description.
example_value	No	String	Example value of a parameter.

Table 9-9 DatasourceOrderPara

Parameter	Mandatory	Type	Description
name	No	String	Name of a sorting parameter.
field	No	String	Indicates the corresponding parameter field.
optional	No	Boolean	Indicates whether the parameter is optional.
sort	No	String	Sorting method Enumerated values: <ul style="list-style-type: none"> • ASC: ascending order • DESC: descending order • CUSTOM: custom order
order	No	Integer	Sequence of sorting parameters.
description	No	String	Sorting parameter description

Table 9-10 BackendConfig

Parameter	Mandatory	Type	Description
type	No	String	Request type <ul style="list-style-type: none"> • REQUEST_TYPE_POST: POST request • REQUEST_TYPE_GET: GET request
protocol	No	String	API request protocol type <ul style="list-style-type: none"> • PROTOCOL_TYPE_HTTP: HTTP • PROTOCOL_TYPE_HTTPS: HTTPS
host	No	String	Backend host
timeout	No	Integer	Backend timeout interval.
path	No	String	Backend request path
backend_parameters	No	Array of BackendRequestPara objects	API backend parameters.

Parameter	Mandatory	Type	Description
constant_parameters	No	Array of BackendConstant objects	Backend constant parameter.

Table 9-11 BackendRequestPara

Parameter	Mandatory	Type	Description
name	No	String	API request parameter name
position	No	String	Parameter position Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_POSITION_PATH: request path • REQUEST_PARAMETER_POSITION_HEADER: request header • REQUEST_PARAMETER_POSITION_QUERY: request query
backend_parameter_name	No	String	Backend parameter.

Table 9-12 BackendConstant

Parameter	Mandatory	Type	Description
name	No	String	Name of a constant parameter.
type	No	String	Constant parameter type Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_TYPE_NUMBER: number • REQUEST_PARAMETER_TYPE_STRING: string

Parameter	Mandatory	Type	Description
position	No	String	Parameter position Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_POSITION_PATH: request path • REQUEST_PARAMETER_POSITION_HEADER: request header • REQUEST_PARAMETER_POSITION_QUERY: request query
description	No	String	Constant parameter description.
value	No	String	Constant parameter value.

Response Parameters

Status code: 200

Table 9-13 Response body parameters

Parameter	Type	Description
id	String	ID of the API that is successfully created.

Status code: 400

Table 9-14 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

- Create a configuration API.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis
```

```
{
  "catalog_id" : "0",
  "name" : "create_config_api",
  "description" : "dws",
  "visibility" : "WORKSPACE",
```

```
"api_type" : "API_SPECIFIC_TYPE_CONFIGURATION",
"auth_type" : "APP",
"retention_period" : "1",
"manager" : "user",
"log_flag" : true,
"path" : "/pathrGW6riuO/{p}",
"protocol" : "PROTOCOL_TYPE_HTTPS",
"request_type" : "REQUEST_TYPE_POST",
"request_paras" : [ {
  "name" : "a",
  "position" : "REQUEST_PARAMETER_POSITION_QUERY",
  "type" : "REQUEST_PARAMETER_TYPE_STRING",
  "description" : "1",
  "necessary" : true,
  "example_value" : "1",
  "default_value" : "1",
  "support_null" : false
}, {
  "name" : "b",
  "position" : "REQUEST_PARAMETER_POSITION_HEADER",
  "type" : "REQUEST_PARAMETER_TYPE_STRING",
  "description" : "1",
  "necessary" : true,
  "example_value" : "1",
  "default_value" : "1",
  "support_null" : false
}, {
  "name" : "c",
  "position" : "REQUEST_PARAMETER_POSITION_BODY",
  "type" : "REQUEST_PARAMETER_TYPE_STRING",
  "description" : "1",
  "necessary" : true,
  "example_value" : "1",
  "default_value" : "1",
  "support_null" : false
}, {
  "name" : "p",
  "position" : "REQUEST_PARAMETER_POSITION_PATH",
  "type" : "REQUEST_PARAMETER_TYPE_STRING",
  "description" : "ok1",
  "necessary" : true,
  "example_value" : "ok1",
  "default_value" : "ok1",
  "support_null" : false
}
],
"datasource_config" : {
  "access_mode" : "SQL",
  "order_paras" : [ ],
  "table_id" : "NativeTable-c68d84bd2d89420cb2458b4e06805ddf-postgres-dbadmin-test3",
  "datatable" : "dbadmin.test3",
  "database" : "postgres",
  "connection_id" : "c68d84bd2d89420cb2458b4e06805ddf",
  "connection_name" : "yqp_dws",
  "type" : "DWS",
  "pagination" : "DEFAULT",
  "sql" : "",
  "total_size_sql" : "",
  "backend_paras" : [ {
    "name" : "a",
    "mapping" : "username",
    "condition" : "CONDITION_TYPE_EQ"
  }
],
  "response_paras" : [ {
    "description" : "",
    "example_value" : "",
    "field" : "id_num",
    "name" : "id_num",
    "type" : "REQUEST_PARAMETER_TYPE_STRING"
  }
],
}
```



```
    "description": "",
    "example_value": "",
    "field": "username",
    "name": "username",
    "type": "REQUEST_PARAMETER_TYPE_STRING"
  }
},
"data_mask_switch": false,
"data_mask_paras": [ ]
}
```

- Create a script API.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis
{
  "catalog_id": "0",
  "name": "create_script_api",
  "description": "dws",
  "visibility": "WORKSPACE",
  "api_type": "API_SPECIFIC_TYPE_SCRIPT",
  "auth_type": "APP",
  "retention_period": "1",
  "manager": "user",
  "log_flag": true,
  "path": "/pathR7YL3xfN/{p}",
  "protocol": "PROTOCOL_TYPE_HTTPS",
  "request_type": "REQUEST_TYPE_POST",
  "request_paras": [ {
    "name": "a",
    "position": "REQUEST_PARAMETER_POSITION_QUERY",
    "type": "REQUEST_PARAMETER_TYPE_STRING",
    "description": "1",
    "necessary": true,
    "example_value": "1",
    "default_value": "1",
    "support_null": false
  }, {
    "name": "b",
    "position": "REQUEST_PARAMETER_POSITION_HEADER",
    "type": "REQUEST_PARAMETER_TYPE_STRING",
    "description": "1",
    "necessary": true,
    "example_value": "1",
    "default_value": "1",
    "support_null": false
  }, {
    "name": "c",
    "position": "REQUEST_PARAMETER_POSITION_BODY",
    "type": "REQUEST_PARAMETER_TYPE_STRING",
    "description": "1",
    "necessary": true,
    "example_value": "1",
    "default_value": "1",
    "support_null": false
  }, {
    "name": "p",
    "position": "REQUEST_PARAMETER_POSITION_PATH",
    "type": "REQUEST_PARAMETER_TYPE_STRING",
    "description": "ok1",
    "necessary": true,
    "example_value": "ok1",
    "default_value": "ok1",
    "support_null": false
  } ],
  "datasource_config": {
    "access_mode": "SQL",
    "order_paras": [ ],
    "database": "dls",
    "connection_id": "c68d84bd2d89420cb2458b4e06805ddf",
    "connection_name": "yqp_dws",
  }
}
```

```
"type": "DWS",
"pagination": "CUSTOM",
"sql": "c2VsZWNOIDMsNCw1",
"total_size_sql": "",
"backend_paras": [ {
  "name": "a",
  "mapping": "a",
  "condition": "CONDITION_TYPE_EQ"
}, {
  "name": "b",
  "mapping": "b",
  "condition": "CONDITION_TYPE_EQ"
}, {
  "name": "c",
  "mapping": "c",
  "condition": "CONDITION_TYPE_EQ"
}, {
  "name": "p",
  "mapping": "p",
  "condition": "CONDITION_TYPE_EQ"
} ]
},
"data_mask_switch": false,
"data_mask_paras": [ ]
}
```

- Create a MyBatis API.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis
{
  "catalog_id": "0",
  "name": "create_mybatis_api",
  "description": "desc",
  "visibility": "WORKSPACE",
  "api_type": "API_SPECIFIC_TYPE_MYBATIS",
  "auth_type": "APP",
  "retention_period": "0",
  "manager": "user",
  "log_flag": true,
  "path": "/pathR7YL3xfN",
  "protocol": "PROTOCOL_TYPE_HTTPS",
  "request_type": "REQUEST_TYPE_POST",
  "request_paras": [ {
    "name": "ssss",
    "position": "REQUEST_PARAMETER_POSITION_QUERY",
    "type": "REQUEST_PARAMETER_TYPE_STRING",
    "description": "1",
    "necessary": true,
    "example_value": "1",
    "default_value": "1",
    "support_null": false
  } ],
  "datasource_config": {
    "access_mode": "SQL",
    "order_paras": [ ],
    "database": "dls",
    "connection_id": "c68d84bd2d89420cb2458b4e06805ddf",
    "connection_name": "yqp_dws",
    "type": "DWS",
    "pagination": "CUSTOM",
    "sql": "c2VsZWNOIDMDEKPGlmIHRLc3Q9InNzc3MgPT0gJzEnLnRvU3RyaW5nKCKiPiAgCiwylAo8L2lmPg==",
    "total_size_sql": "",
    "backend_paras": [ ]
  },
  "data_mask_switch": false,
  "data_mask_paras": [ ]
}
```

Example Responses

Status code: 200

Success

```
{
  "id" : "6b9e682fd6d0ef7c0f67470124b20762"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

- Create a configuration API.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateApiSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before
        // running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
        // environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateApiRequest request = new CreateApiRequest();
        Api body = new Api();
        List<ApiResponsePara> listDatasourceConfigResponseParas = new ArrayList<>();
        listDatasourceConfigResponseParas.add(
            new ApiResponsePara()
                .withName("id_num")
                .withField("id_num")
                .withType(ApiResponsePara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
                .withDescription("")
                .withExampleValue("")
        );
        listDatasourceConfigResponseParas.add(
            new ApiResponsePara()
                .withName("username")
```

```
.withField("username")
.withType(ApiResponsePara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
.withDescription("")
.withExampleValue("")
);
List<ApiRequestPara> listDatasourceConfigBackendParas = new ArrayList<>();
listDatasourceConfigBackendParas.add(
    new ApiRequestPara()
        .withName("a")
        .withMapping("username")
        .withCondition(ApiRequestPara.ConditionEnum.fromValue("CONDITION_TYPE_EQ"))
);
DatasourceConfig datasourceConfigbody = new DatasourceConfig();
datasourceConfigbody.withType(DatasourceConfig.TypeEnum.fromValue("DWS"))
.withConnectionName("yqp_dws")
.withConnectionId("c68d84bd2d89420cb2458b4e06805ddf")
.withDatabase("postgres")
.withDatatable("dbadmin.test3")
.withTableId("NativeTable-c68d84bd2d89420cb2458b4e06805ddf-postgres-dbadmin-test3")
.withAccessMode(DatasourceConfig.AccessModeEnum.fromValue("SQL"))
.withPagination(DatasourceConfig.PaginationEnum.fromValue("DEFAULT"))
.withSql("")
.withBackendParas(listDatasourceConfigBackendParas)
.withResponseParas(listDatasourceConfigResponseParas);
List<RequestPara> listbodyRequestParas = new ArrayList<>();
listbodyRequestParas.add(
    new RequestPara()
        .withName("a")
        .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_QUERY"))
        .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
        .withDescription("1")
        .withNecessary(true)
        .withExampleValue("1")
        .withDefaultValue("1")
);
listbodyRequestParas.add(
    new RequestPara()
        .withName("b")
        .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_HEADER"))
        .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
        .withDescription("1")
        .withNecessary(true)
        .withExampleValue("1")
        .withDefaultValue("1")
);
listbodyRequestParas.add(
    new RequestPara()
        .withName("c")
        .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_BODY"))
        .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
        .withDescription("1")
        .withNecessary(true)
        .withExampleValue("1")
        .withDefaultValue("1")
);
listbodyRequestParas.add(
    new RequestPara()
        .withName("p")
        .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_PATH"))
        .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
        .withDescription("ok1")
        .withNecessary(true)
        .withExampleValue("ok1")
        .withDefaultValue("ok1")
);
```

```
body.withDatasourceConfig(datasourceConfigbody);
body.withRequestParas(listbodyRequestParas);
body.withVisibility(Api.VisibilityEnum.fromValue("WORKSPACE"));
body.withRequestType(Api.RequestTypeEnum.fromValue("REQUEST_TYPE_POST"));
body.withProtocol(Api.ProtocolEnum.fromValue("PROTOCOL_TYPE_HTTPS"));
body.withPath("/pathrGW6riuO/{p}");
body.withManager("user");
body.withAuthType(Api.AuthTypeEnum.fromValue("APP"));
body.withApiType(Api.ApiTypeEnum.fromValue("API_SPECIFIC_TYPE_CONFIGURATION"));
body.withLogFlag(true);
body.withDescription("dws");
body.withName("create_config_api");
body.withCatalogId("0");
request.withBody(body);
try {
    CreateApiResponse response = client.createApi(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

- Create a script API.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateApiSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before
        // running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
        // environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        CreateApiRequest request = new CreateApiRequest();
        Api body = new Api();
```

```
List<ApiRequestPara> listDatasourceConfigBackendParas = new ArrayList<>();
listDatasourceConfigBackendParas.add(
    new ApiRequestPara()
        .withName("a")
        .withMapping("a")
        .withCondition(ApiRequestPara.ConditionEnum.fromValue("CONDITION_TYPE_EQ"))
);
listDatasourceConfigBackendParas.add(
    new ApiRequestPara()
        .withName("b")
        .withMapping("b")
        .withCondition(ApiRequestPara.ConditionEnum.fromValue("CONDITION_TYPE_EQ"))
);
listDatasourceConfigBackendParas.add(
    new ApiRequestPara()
        .withName("c")
        .withMapping("c")
        .withCondition(ApiRequestPara.ConditionEnum.fromValue("CONDITION_TYPE_EQ"))
);
listDatasourceConfigBackendParas.add(
    new ApiRequestPara()
        .withName("p")
        .withMapping("p")
        .withCondition(ApiRequestPara.ConditionEnum.fromValue("CONDITION_TYPE_EQ"))
);
DatasourceConfig datasourceConfigbody = new DatasourceConfig();
datasourceConfigbody.withType(DatasourceConfig.TypeEnum.fromValue("DWS"))
    .withConnectionName("yqp_dws")
    .withConnectionId("c68d84bd2d89420cb2458b4e06805ddf")
    .withDatabase("dls")
    .withAccessMode(DatasourceConfig.AccessModeEnum.fromValue("SQL"))
    .withPagination(DatasourceConfig.PaginationEnum.fromValue("CUSTOM"))
    .withSql("c2VsZWN0IDMsNCw1")
    .withBackendParas(listDatasourceConfigBackendParas);
List<RequestPara> listbodyRequestParas = new ArrayList<>();
listbodyRequestParas.add(
    new RequestPara()
        .withName("a")
        .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_QUERY"))
        .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
        .withDescription("1")
        .withNecessary(true)
        .withExampleValue("1")
        .withDefaultValue("1")
);
listbodyRequestParas.add(
    new RequestPara()
        .withName("b")
        .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_HEADER"))
        .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
        .withDescription("1")
        .withNecessary(true)
        .withExampleValue("1")
        .withDefaultValue("1")
);
listbodyRequestParas.add(
    new RequestPara()
        .withName("c")
        .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_BODY"))
        .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
        .withDescription("1")
        .withNecessary(true)
        .withExampleValue("1")
        .withDefaultValue("1")
);
listbodyRequestParas.add(
```

```
        new RequestPara()
            .withName("p")
            .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_PAT
H"))
            .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
            .withDescription("ok1")
            .withNecessary(true)
            .withExampleValue("ok1")
            .withDefaultValue("ok1")
    );
    body.withDatasourceConfig(datasourceConfigbody);
    body.withRequestParas(listbodyRequestParas);
    body.withVisibility(Api.VisibilityEnum.fromValue("WORKSPACE"));
    body.withRequestType(Api.RequestTypeEnum.fromValue("REQUEST_TYPE_POST"));
    body.withProtocol(Api.ProtocolEnum.fromValue("PROTOCOL_TYPE_HTTPS"));
    body.withPath("/pathR7YL3xfN/{p}");
    body.withManager("user");
    body.withAuthType(Api.AuthTypeEnum.fromValue("APP"));
    body.withApiType(Api.ApiTypeEnum.fromValue("API_SPECIFIC_TYPE_SCRIPT"));
    body.withLogFlag(true);
    body.withDescription("dws");
    body.withName("create_script_api");
    body.withCatalogId("0");
    request.withBody(body);
    try {
        CreateApiResponse response = client.createApi(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

- **Create a MyBatis API.**

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateApiSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before
        // running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
        // environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
```

```

        .withProjectId(projectId)
        .withAk(ak)
        .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
CreateApiRequest request = new CreateApiRequest();
Api body = new Api();
DatasourceConfig datasourceConfigbody = new DatasourceConfig();
datasourceConfigbody.withType(DatasourceConfig.TypeEnum.fromValue("DWS"))
    .withConnectionName("yqp_dws")
    .withConnectionId("c68d84bd2d89420cb2458b4e06805ddf")
    .withDatabase("dls")
    .withAccessMode(DatasourceConfig.AccessModeEnum.fromValue("SQL"))
    .withPagination(DatasourceConfig.PaginationEnum.fromValue("CUSTOM"))
    .withSql("c2VsZWN0IDEKPGlmlHRlc3Q9InNzc3MgPT0gJzEnLnRvU3RyaW5nKCKiPiAgCiwylAo8L
2lmpg==");
List<RequestPara> listbodyRequestParas = new ArrayList<>();
listbodyRequestParas.add(
    new RequestPara()
        .withName("ssss")
        .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_QU
ERY"))
        .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_STRING"))
        .withDescription("1")
        .withNecessary(true)
        .withExampleValue("1")
        .withDefaultValue("1")
    );
body.withDatasourceConfig(datasourceConfigbody);
body.withRequestParas(listbodyRequestParas);
body.withVisibility(Api.VisibilityEnum.fromValue("WORKSPACE"));
body.withRequestType(Api.RequestTypeEnum.fromValue("REQUEST_TYPE_POST"));
body.withProtocol(Api.ProtocolEnum.fromValue("PROTOCOL_TYPE_HTTPS"));
body.withPath("/pathR7YL3xfN");
body.withManager("user");
body.withAuthType(Api.AuthTypeEnum.fromValue("APP"));
body.withApiType(Api.ApiTypeEnum.fromValue("API_SPECIFIC_TYPE_MYBATIS"));
body.withLogFlag(true);
body.withDescription("desc");
body.withName("create_mybatis_api");
body.withCatalogId("0");
request.withBody(body);
try {
    CreateApiResponse response = client.createApi(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
}

```

Python

- Create a configuration API.

```

# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials

```



```
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    # security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    # environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before
    # running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
    # environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateApiRequest()
        listResponseParasDatasourceConfig = [
            ApiResponsePara(
                name="id_num",
                field="id_num",
                type="REQUEST_PARAMETER_TYPE_STRING",
                description="",
                example_value=""
            ),
            ApiResponsePara(
                name="username",
                field="username",
                type="REQUEST_PARAMETER_TYPE_STRING",
                description="",
                example_value=""
            )
        ]
        listBackendParasDatasourceConfig = [
            ApiRequestPara(
                name="a",
                mapping="username",
                condition="CONDITION_TYPE_EQ"
            )
        ]
        datasourceConfigbody = DatasourceConfig(
            type="DWS",
            connection_name="yqp_dws",
            connection_id="c68d84bd2d89420cb2458b4e06805ddf",
            database="postgres",
            datatable="dbadmin.test3",
            table_id="NativeTable-c68d84bd2d89420cb2458b4e06805ddf-postgres-dbadmin-test3",
            access_mode="SQL",
            pagination="DEFAULT",
            sql="",
            backend_paras=listBackendParasDatasourceConfig,
            response_paras=listResponseParasDatasourceConfig
        )
        listRequestParasbody = [
            RequestPara(
                name="a",
                position="REQUEST_PARAMETER_POSITION_QUERY",
                type="REQUEST_PARAMETER_TYPE_STRING",
                description="1",
                necessary=True,
                example_value="1",
                default_value="1"
            )
        ]
```

```
    ),
    RequestPara(
        name="b",
        position="REQUEST_PARAMETER_POSITION_HEADER",
        type="REQUEST_PARAMETER_TYPE_STRING",
        description="1",
        necessary=True,
        example_value="1",
        default_value="1"
    ),
    RequestPara(
        name="c",
        position="REQUEST_PARAMETER_POSITION_BODY",
        type="REQUEST_PARAMETER_TYPE_STRING",
        description="1",
        necessary=True,
        example_value="1",
        default_value="1"
    ),
    RequestPara(
        name="p",
        position="REQUEST_PARAMETER_POSITION_PATH",
        type="REQUEST_PARAMETER_TYPE_STRING",
        description="ok1",
        necessary=True,
        example_value="ok1",
        default_value="ok1"
    )
]
request.body = Api(
    datasource_config=datasourceConfigbody,
    request_paras=listRequestParasbody,
    visibility="WORKSPACE",
    request_type="REQUEST_TYPE_POST",
    protocol="PROTOCOL_TYPE_HTTPS",
    path="/pathrGW6riuO/{p}",
    manager="user",
    auth_type="APP",
    api_type="API_SPECIFIC_TYPE_CONFIGURATION",
    log_flag=True,
    description="dws",
    name="create_config_api",
    catalog_id="0"
)
response = client.create_api(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

- Create a script API.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before
    running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
    environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
```

```
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = CreateApiRequest()
    listBackendParasDatasourceConfig = [
        ApiRequestPara(
            name="a",
            mapping="a",
            condition="CONDITION_TYPE_EQ"
        ),
        ApiRequestPara(
            name="b",
            mapping="b",
            condition="CONDITION_TYPE_EQ"
        ),
        ApiRequestPara(
            name="c",
            mapping="c",
            condition="CONDITION_TYPE_EQ"
        ),
        ApiRequestPara(
            name="p",
            mapping="p",
            condition="CONDITION_TYPE_EQ"
        )
    ]
    datasourceConfigbody = DatasourceConfig(
        type="DWS",
        connection_name="yqp_dws",
        connection_id="c68d84bd2d89420cb2458b4e06805ddf",
        database="dls",
        access_mode="SQL",
        pagination="CUSTOM",
        sql="c2VsZWN0IDMsNCw1",
        backend_paras=listBackendParasDatasourceConfig
    )
    listRequestParasbody = [
        RequestPara(
            name="a",
            position="REQUEST_PARAMETER_POSITION_QUERY",
            type="REQUEST_PARAMETER_TYPE_STRING",
            description="1",
            necessary=True,
            example_value="1",
            default_value="1"
        ),
        RequestPara(
            name="b",
            position="REQUEST_PARAMETER_POSITION_HEADER",
            type="REQUEST_PARAMETER_TYPE_STRING",
            description="1",
            necessary=True,
            example_value="1",
            default_value="1"
        ),
        RequestPara(
            name="c",
            position="REQUEST_PARAMETER_POSITION_BODY",
            type="REQUEST_PARAMETER_TYPE_STRING",
            description="1",
            necessary=True,
            example_value="1",
```

```
        default_value="1"
    ),
    RequestPara(
        name="p",
        position="REQUEST_PARAMETER_POSITION_PATH",
        type="REQUEST_PARAMETER_TYPE_STRING",
        description="ok1",
        necessary=True,
        example_value="ok1",
        default_value="ok1"
    )
]
request.body = Api(
    datasource_config=datasourceConfigbody,
    request_paras=listRequestParasbody,
    visibility="WORKSPACE",
    request_type="REQUEST_TYPE_POST",
    protocol="PROTOCOL_TYPE_HTTPS",
    path="/pathR7YL3xfN/{p}",
    manager="user",
    auth_type="APP",
    api_type="API_SPECIFIC_TYPE_SCRIPT",
    log_flag=True,
    description="dws",
    name="create_script_api",
    catalog_id="0"
)
response = client.create_api(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

- **Create a MyBatis API.**

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before
    running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
    environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateApiRequest()
        datasourceConfigbody = DatasourceConfig(
            type="DWS",
            connection_name="yqp_dws",
            connection_id="c68d84bd2d89420cb2458b4e06805ddf",
            database="dls",
            access_mode="SQL",
```

```
        pagination="CUSTOM",
sql="c2VsZWN0IDEKPGImIHRLc3Q9InNzc3MgPT0gJzEnLnRvU3RyaW5nKCKiPiAgCiwylAo8L2lmPg=="
    )
    listRequestParasbody = [
        RequestPara(
            name="ssss",
            position="REQUEST_PARAMETER_POSITION_QUERY",
            type="REQUEST_PARAMETER_TYPE_STRING",
            description="1",
            necessary=True,
            example_value="1",
            default_value="1"
        )
    ]
    request.body = Api(
        datasource_config=datasourceConfigbody,
        request_paras=listRequestParasbody,
        visibility="WORKSPACE",
        request_type="REQUEST_TYPE_POST",
        protocol="PROTOCOL_TYPE_HTTPS",
        path="/pathR7YL3xfN",
        manager="user",
        auth_type="APP",
        api_type="API_SPECIFIC_TYPE_MYBATIS",
        log_flag=True,
        description="desc",
        name="create_mybatis_api",
        catalog_id="0"
    )
    response = client.create_api(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

- Create a configuration API.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    // environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before
    // running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
    // environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
```

```
dataartsstudio.DataArtsStudioClientBuilder().
  WithRegion(region.ValueOf("<YOUR REGION>")).
  WithCredential(auth).
  Build())

request := &model.CreateApiRequest{}
nameResponseParas:= "id_num"
fieldResponseParas:= "id_num"
typeResponseParas:= model.GetApiResponseParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
descriptionResponseParas:= ""
exampleValueResponseParas:= ""
nameResponseParas1:= "username"
fieldResponseParas1:= "username"
typeResponseParas1:= model.GetApiResponseParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
descriptionResponseParas1:= ""
exampleValueResponseParas1:= ""
var listResponseParasDatasourceConfig = []model.ApiResponsePara{
  {
    Name: &nameResponseParas,
    Field: &fieldResponseParas,
    Type: &typeResponseParas,
    Description: &descriptionResponseParas,
    ExampleValue: &exampleValueResponseParas,
  },
  {
    Name: &nameResponseParas1,
    Field: &fieldResponseParas1,
    Type: &typeResponseParas1,
    Description: &descriptionResponseParas1,
    ExampleValue: &exampleValueResponseParas1,
  },
}
nameBackendParas:= "a"
mappingBackendParas:= "username"
conditionBackendParas:= model.GetApiRequestParaConditionEnum().CONDITION_TYPE_EQ
var listBackendParasDatasourceConfig = []model.ApiRequestPara{
  {
    Name: &nameBackendParas,
    Mapping: &mappingBackendParas,
    Condition: &conditionBackendParas,
  },
}
typeDatasourceConfig:= model.GetDatasourceConfigTypeEnum().DWS
connectionNameDatasourceConfig:= "yqp_dws"
connectionIdDatasourceConfig:= "c68d84bd2d89420cb2458b4e06805ddf"
databaseDatasourceConfig:= "postgres"
datatableDatasourceConfig:= "dbadmin.test3"
tableIdDatasourceConfig:= "NativeTable-c68d84bd2d89420cb2458b4e06805ddf-postgres-dbadmin-
test3"
accessModeDatasourceConfig:= model.GetDatasourceConfigAccessModeEnum().SQL
paginationDatasourceConfig:= model.GetDatasourceConfigPaginationEnum().DEFAULT
sqlDatasourceConfig:= ""
datasourceConfigbody := &model.DatasourceConfig{
  Type: &typeDatasourceConfig,
  ConnectionName: &connectionNameDatasourceConfig,
  ConnectionId: &connectionIdDatasourceConfig,
  Database: &databaseDatasourceConfig,
  Datatable: &datatableDatasourceConfig,
  TableId: &tableIdDatasourceConfig,
  AccessMode: &accessModeDatasourceConfig,
  Pagination: &paginationDatasourceConfig,
  Sql: &sqlDatasourceConfig,
  BackendParas: &listBackendParasDatasourceConfig,
  ResponseParas: &listResponseParasDatasourceConfig,
}
nameRequestParas:= "a"
positionRequestParas:=
model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_QUERY
typeRequestParas:= model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
```

```
descriptionRequestParas:= "1"
necessaryRequestParas:= true
exampleValueRequestParas:= "1"
defaultValueRequestParas:= "1"
nameRequestParas1:= "b"
positionRequestParas1:=
model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_HEADER
typeRequestParas1:= model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
descriptionRequestParas1:= "1"
necessaryRequestParas1:= true
exampleValueRequestParas1:= "1"
defaultValueRequestParas1:= "1"
nameRequestParas2:= "c"
positionRequestParas2:=
model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_BODY
typeRequestParas2:= model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
descriptionRequestParas2:= "1"
necessaryRequestParas2:= true
exampleValueRequestParas2:= "1"
defaultValueRequestParas2:= "1"
nameRequestParas3:= "p"
positionRequestParas3:=
model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_PATH
typeRequestParas3:= model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
descriptionRequestParas3:= "ok1"
necessaryRequestParas3:= true
exampleValueRequestParas3:= "ok1"
defaultValueRequestParas3:= "ok1"
var listRequestParasbody = []model.RequestPara{
    {
        Name: &nameRequestParas,
        Position: &positionRequestParas,
        Type: &typeRequestParas,
        Description: &descriptionRequestParas,
        Necessary: &necessaryRequestParas,
        ExampleValue: &exampleValueRequestParas,
        DefaultValue: &defaultValueRequestParas,
    },
    {
        Name: &nameRequestParas1,
        Position: &positionRequestParas1,
        Type: &typeRequestParas1,
        Description: &descriptionRequestParas1,
        Necessary: &necessaryRequestParas1,
        ExampleValue: &exampleValueRequestParas1,
        DefaultValue: &defaultValueRequestParas1,
    },
    {
        Name: &nameRequestParas2,
        Position: &positionRequestParas2,
        Type: &typeRequestParas2,
        Description: &descriptionRequestParas2,
        Necessary: &necessaryRequestParas2,
        ExampleValue: &exampleValueRequestParas2,
        DefaultValue: &defaultValueRequestParas2,
    },
    {
        Name: &nameRequestParas3,
        Position: &positionRequestParas3,
        Type: &typeRequestParas3,
        Description: &descriptionRequestParas3,
        Necessary: &necessaryRequestParas3,
        ExampleValue: &exampleValueRequestParas3,
        DefaultValue: &defaultValueRequestParas3,
    },
}
visibilityApi:= model.GetApiVisibilityEnum().WORKSPACE
requestTypeApi:= model.GetApiRequestTypeEnum().REQUEST_TYPE_POST
protocolApi:= model.GetApiProtocolEnum().PROTOCOL_TYPE_HTTPS
```

```
pathApi:= "/pathrGW6riuO/{p}"
managerApi:= "user"
authTypeApi:= model.GetApiAuthTypeEnum().APP
apiTypeApi:= model.GetApiApiTypeEnum().API_SPECIFIC_TYPE_CONFIGURATION
logFlagApi:= true
descriptionApi:= "dws"
nameApi:= "create_config_api"
catalogIdApi:= "0"
request.Body = &model.Api{
    DatasourceConfig: datasourceConfigbody,
    RequestParas: &listRequestParasbody,
    Visibility: &visibilityApi,
    RequestType: &requestTypeApi,
    Protocol: &protocolApi,
    Path: &pathApi,
    Manager: &managerApi,
    AuthType: &authTypeApi,
    ApiType: &apiTypeApi,
    LogFlag: &logFlagApi,
    Description: &descriptionApi,
    Name: &nameApi,
    CatalogId: &catalogIdApi,
}
response, err := client.CreateApi(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

- Create a script API.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    // environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before
    // running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
    // environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateApiRequest{}
    nameBackendParas:= "a"
    mappingBackendParas:= "a"
    conditionBackendParas:= model.GetApiRequestParaConditionEnum().CONDITION_TYPE_EQ
    nameBackendParas1:= "b"
```



```
mappingBackendParas1:= "b"
conditionBackendParas1:= model.GetApiRequestParaConditionEnum().CONDITION_TYPE_EQ
nameBackendParas2:= "c"
mappingBackendParas2:= "c"
conditionBackendParas2:= model.GetApiRequestParaConditionEnum().CONDITION_TYPE_EQ
nameBackendParas3:= "p"
mappingBackendParas3:= "p"
conditionBackendParas3:= model.GetApiRequestParaConditionEnum().CONDITION_TYPE_EQ
var listBackendParasDatasourceConfig = []model.ApiRequestPara{
    {
        Name: &nameBackendParas,
        Mapping: &mappingBackendParas,
        Condition: &conditionBackendParas,
    },
    {
        Name: &nameBackendParas1,
        Mapping: &mappingBackendParas1,
        Condition: &conditionBackendParas1,
    },
    {
        Name: &nameBackendParas2,
        Mapping: &mappingBackendParas2,
        Condition: &conditionBackendParas2,
    },
    {
        Name: &nameBackendParas3,
        Mapping: &mappingBackendParas3,
        Condition: &conditionBackendParas3,
    },
}
typeDatasourceConfig:= model.GetDatasourceConfigTypeEnum().DWS
connectionNameDatasourceConfig:= "yqp_dws"
connectionIdDatasourceConfig:= "c68d84bd2d89420cb2458b4e06805ddf"
databaseDatasourceConfig:= "dls"
accessModeDatasourceConfig:= model.GetDatasourceConfigAccessModeEnum().SQL
paginationDatasourceConfig:= model.GetDatasourceConfigPaginationEnum().CUSTOM
sqlDatasourceConfig:= "c2VsZWNOIDMsNCw1"
datasourceConfigbody := &model.DatasourceConfig{
    Type: &typeDatasourceConfig,
    ConnectionName: &connectionNameDatasourceConfig,
    ConnectionId: &connectionIdDatasourceConfig,
    Database: &databaseDatasourceConfig,
    AccessMode: &accessModeDatasourceConfig,
    Pagination: &paginationDatasourceConfig,
    Sql: &sqlDatasourceConfig,
    BackendParas: &listBackendParasDatasourceConfig,
}
nameRequestParas:= "a"
positionRequestParas:=
model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_QUERY
typeRequestParas:= model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
descriptionRequestParas:= "1"
necessaryRequestParas:= true
exampleValueRequestParas:= "1"
defaultValueRequestParas:= "1"
nameRequestParas1:= "b"
positionRequestParas1:=
model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_HEADER
typeRequestParas1:= model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
descriptionRequestParas1:= "1"
necessaryRequestParas1:= true
exampleValueRequestParas1:= "1"
defaultValueRequestParas1:= "1"
nameRequestParas2:= "c"
positionRequestParas2:=
model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_BODY
typeRequestParas2:= model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
descriptionRequestParas2:= "1"
necessaryRequestParas2:= true
```

```
exampleValueRequestParas2:= "1"
defaultValueRequestParas2:= "1"
nameRequestParas3:= "p"
positionRequestParas3:=
model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_PATH
typeRequestParas3:= model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING
descriptionRequestParas3:= "ok1"
necessaryRequestParas3:= true
exampleValueRequestParas3:= "ok1"
defaultValueRequestParas3:= "ok1"
var listRequestParasbody = []model.RequestPara{
    {
        Name: &nameRequestParas,
        Position: &positionRequestParas,
        Type: &typeRequestParas,
        Description: &descriptionRequestParas,
        Necessary: &necessaryRequestParas,
        ExampleValue: &exampleValueRequestParas,
        DefaultValue: &defaultValueRequestParas,
    },
    {
        Name: &nameRequestParas1,
        Position: &positionRequestParas1,
        Type: &typeRequestParas1,
        Description: &descriptionRequestParas1,
        Necessary: &necessaryRequestParas1,
        ExampleValue: &exampleValueRequestParas1,
        DefaultValue: &defaultValueRequestParas1,
    },
    {
        Name: &nameRequestParas2,
        Position: &positionRequestParas2,
        Type: &typeRequestParas2,
        Description: &descriptionRequestParas2,
        Necessary: &necessaryRequestParas2,
        ExampleValue: &exampleValueRequestParas2,
        DefaultValue: &defaultValueRequestParas2,
    },
    {
        Name: &nameRequestParas3,
        Position: &positionRequestParas3,
        Type: &typeRequestParas3,
        Description: &descriptionRequestParas3,
        Necessary: &necessaryRequestParas3,
        ExampleValue: &exampleValueRequestParas3,
        DefaultValue: &defaultValueRequestParas3,
    },
}
visibilityApi:= model.GetApiVisibilityEnum().WORKSPACE
requestTypeApi:= model.GetApiRequestTypeEnum().REQUEST_TYPE_POST
protocolApi:= model.GetApiProtocolEnum().PROTOCOL_TYPE_HTTPS
pathApi:= "/pathR7YL3xfN/{p}"
managerApi:= "user"
authTypeApi:= model.GetApiAuthTypeEnum().APP
apiTypeApi:= model.GetApiApiTypeEnum().API_SPECIFIC_TYPE_SCRIPT
logFlagApi:= true
descriptionApi:= "dws"
nameApi:= "create_script_api"
catalogIdApi:= "0"
request.Body = &model.Api{
    DatasourceConfig: datasourceConfigbody,
    RequestParas: &listRequestParasbody,
    Visibility: &visibilityApi,
    RequestType: &requestTypeApi,
    Protocol: &protocolApi,
    Path: &pathApi,
    Manager: &managerApi,
    AuthType: &authTypeApi,
    ApiType: &apiTypeApi,
```

```
    LogFlag: &logFlagApi,  
    Description: &descriptionApi,  
    Name: &nameApi,  
    CatalogId: &catalogIdApi,  
  }  
  response, err := client.CreateApi(request)  
  if err == nil {  
    fmt.Printf("%+v\n", response)  
  } else {  
    fmt.Println(err)  
  }  
}
```

- Create a MyBatis API.

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
    // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
    // environment variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before  
    // running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local  
    // environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build())  
  
    request := &model.CreateApiRequest{}  
    typeDataSourceConfig := model.GetDataSourceConfigTypeEnum().DWS  
    connectionNameDataSourceConfig := "yqp_dws"  
    connectionIdDataSourceConfig := "c68d84bd2d89420cb2458b4e06805ddf"  
    databaseDataSourceConfig := "dls"  
    accessModeDataSourceConfig := model.GetDataSourceConfigAccessModeEnum().SQL  
    paginationDataSourceConfig := model.GetDataSourceConfigPaginationEnum().CUSTOM  
    sqlDataSourceConfig :=  
    "c2VsZWN0IDEKPGlmiHRlc3Q9InNzc3MgPT0gJzEnLnRvU3RyaW5nKCKiPiAgCiwylAo8L2lmPg=="  
    dataSourceConfigbody := &model.DataSourceConfig{  
        Type: &typeDataSourceConfig,  
        ConnectionName: &connectionNameDataSourceConfig,  
        ConnectionId: &connectionIdDataSourceConfig,  
        Database: &databaseDataSourceConfig,  
        AccessMode: &accessModeDataSourceConfig,  
        Pagination: &paginationDataSourceConfig,  
        Sql: &sqlDataSourceConfig,  
    }  
    nameRequestParas := "ssss"  
    positionRequestParas :=  
    model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_QUERY  
    typeRequestParas := model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_STRING  
    descriptionRequestParas := "1"
```

```
necessaryRequestParas:= true
exampleValueRequestParas:= "1"
defaultValueRequestParas:= "1"
var listRequestParasbody = []model.RequestPara{
    {
        Name: &nameRequestParas,
        Position: &positionRequestParas,
        Type: &typeRequestParas,
        Description: &descriptionRequestParas,
        Necessary: &necessaryRequestParas,
        ExampleValue: &exampleValueRequestParas,
        DefaultValue: &defaultValueRequestParas,
    },
}
visibilityApi:= model.GetApiVisibilityEnum().WORKSPACE
requestTypeApi:= model.GetApiRequestTypeEnum().REQUEST_TYPE_POST
protocolApi:= model.GetApiProtocolEnum().PROTOCOL_TYPE_HTTPS
pathApi:= "/pathR7YL3xfN"
managerApi:= "user"
authTypeApi:= model.GetApiAuthTypeEnum().APP
apiTypeApi:= model.GetApiApiTypeEnum().API_SPECIFIC_TYPE_MYBATIS
logFlagApi:= true
descriptionApi:= "desc"
nameApi:= "create_mybatis_api"
catalogIdApi:= "0"
request.Body = &model.Api{
    DatasourceConfig: datasourceConfigbody,
    RequestParas: &listRequestParasbody,
    Visibility: &visibilityApi,
    RequestType: &requestTypeApi,
    Protocol: &protocolApi,
    Path: &pathApi,
    Manager: &managerApi,
    AuthType: &authTypeApi,
    ApiType: &apiTypeApi,
    LogFlag: &logFlagApi,
    Description: &descriptionApi,
    Name: &nameApi,
    CatalogId: &catalogIdApi,
}
response, err := client.CreateApi(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.1.2 Querying an API List

Function

This API is used to query the API list.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/apis

Table 9-15 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-16 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Query start coordinate, that is, skipping the first X records. The value can only be 0 or an integer multiple of limit. If the requirement is not met, the value is rounded down.
limit	No	Integer	Maximum number of records that can be queried
name	No	String	Fuzzy query based on the API name.
description	No	String	Fuzzy query based on the API description.
create_user	No	String	Create a user fuzzy query based on the API.
start_time	No	String	Start time, which is accurate to second, complies with RFC3339, and uses the UTC time zone, for example, 2024-02-24T16:00:00.000Z

Parameter	Mandatory	Type	Description
end_time	No	String	End time, which is accurate to second, complies with RFC3339, and uses the UTC time zone, for example, 2024-04-05T15:59:59.998Z
tags	No	Array of strings	Tag
api_type	No	String	API type Enumerated values include: <ul style="list-style-type: none"> • API_SPECIFIC_TYPE_CONFIGURATION: configuration API • API_SPECIFIC_TYPE_SCRIPT: script API • API_SPECIFIC_TYPE_MYBATIS: MyBatis API • API_SPECIFIC_TYPE_GROOVY: Groovy API • API_SPECIFIC_TYPE_REGISTER: registered API • API_SPECIFIC_TYPE_ORCHESTRATE: orchestrated API
publish_status	No	String	API publishing status Enumerated values include: <ul style="list-style-type: none"> • PUBLISHED: published • NOT_PUBLISHED: unpublished
table_name	No	String	Fuzzy query based on the database table name used by the API.
authorization_status	No	String	Authorization status. Enumerated values: <ul style="list-style-type: none"> • NO_AUTHORIZATION_REQUIRED: no authorization required • UNAUTHORIZED: unauthorized • AUTHORIZED: authorized

Request Parameters

Table 9-17 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.
x-return-publish-messages	No	String	Specifies whether to return the publishing information of the exclusive API.

Response Parameters

Status code: 200**Table 9-18** Response body parameters

Parameter	Type	Description
total	Integer	Total number of APIs.

Parameter	Type	Description
records	Array of ApiOverview objects	API list.

Table 9-19 ApiOverview

Parameter	Type	Description
id	String	API ID.
name	String	API name
group_id	String	API group ID (shared version).
description	String	API description,
status	String	<p>API status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_STATUS_CREATED: created • API_STATUS_PUBLISH_WAIT_REVIEW: waiting for review • API_STATUS_PUBLISH_REJECT: rejected • API_STATUS_PUBLISHED: published • API_STATUS_WAITING_STOP: waiting to be stopped • API_STATUS_STOPPED: stopped • API_STATUS_RECOVER_WAIT_REVIEW: waiting to be recovered • API_STATUS_WAITING_OFFLINE: waiting to be suspended • API_STATUS_OFFLINE: suspended • API_STATUS_OFFLINE_WAIT_REVIEW: waiting to be reviewed for suspension

Parameter	Type	Description
debug_status	String	API debugging status (DataArts DataService Shared) Enumerated values: <ul style="list-style-type: none">• API_DEBUG_WAITING: waiting to be debugged• API_DEBUG_FAILED: debugging failed• API_DEBUG_SUCCESS: debugging successful
publish_messages	Array of ApiPublishDTO objects	Release information list (exclusive edition).
type	String	API type.
manager	String	API reviewer.
create_user	String	API creator.
create_time	Long	API creation time
authorization_status	String	Authorization status. Enumerated values: <ul style="list-style-type: none">• NO_AUTHORIZATION_REQUIRED: no authorization required• UNAUTHORIZED: unauthorized• AUTHORIZED: authorized

Table 9-20 ApiPublishDTO

Parameter	Type	Description
id	String	Release ID.
api_id	String	API ID
instance_id	String	Cluster ID
instance_name	String	Cluster Name

Parameter	Type	Description
api_status	String	<p>API status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_STATUS_CREATED: created • API_STATUS_PUBLISH_WAIT_REVIEW: waiting for review • API_STATUS_PUBLISH_REJECT: rejected • API_STATUS_PUBLISHED: published • API_STATUS_WAITING_STOP: waiting to be stopped • API_STATUS_STOPPED: stopped • API_STATUS_RECOVER_WAIT_REVIEW: waiting to be recovered • API_STATUS_WAITING_OFFLINE: waiting to be suspended • API_STATUS_OFFLINE: suspended • API_STATUS_OFFLINE_WAIT_REVIEW: waiting to be reviewed for suspension
api_debug	String	<p>API debugging status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_DEBUG_WAITING: waiting to be debugged • API_DEBUG_FAILED: debugging failed • API_DEBUG_SUCCESS: debugging successful

Status code: 400

Table 9-21 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the information about a script API created and published by the administrator.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis?  
api_type=API_SPECIFIC_TYPE_SCRIPT&publish_status=PUBLISHED&create_user=admin&description=test  
  
{  
  "api_type": "API_SPECIFIC_TYPE_SCRIPT",  
  "publish_status": "PUBLISHED",  
  "create_user": "admin",  
  "description": "Test"  
}
```

Example Responses

Status code: 200

Success

```
{  
  "total": 1,  
  "records": [ {  
    "id": "fd0beac79418d65e3b3ed24a6e53b24b",  
    "name": "testApi",  
    "create_time": 1579162215000,  
    "status": "API_STATUS_CREATED",  
    "manager": "admin",  
    "type": "API_SPECIFIC_TYPE_REGISTER",  
    "debug_status": "API_DEBUG_WAITING",  
    "description": "api description"  
  } ]  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Query the information about a script API created and published by the administrator.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ListApisSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");
```

```
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListApisRequest request = new ListApisRequest();
try {
    ListApisResponse response = client.listApis(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Query the information about a script API created and published by the administrator.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListApisRequest()
        response = client.list_apis(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Query the information about a script API created and published by the administrator.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListApisRequest{}
    response, err := client.ListApis(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.1.3 Updating an API

Function

Update the API.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1/{project_id}/service/apis/{api_id}

Table 9-22 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID.

Request Parameters

Table 9-23 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-24 Request body parameters

Parameter	Mandatory	Type	Description
catalog_id	No	String	Catalog ID.
name	No	String	API name
description	No	String	API description
log_flag	No	Boolean	Indicates whether to enable the access log function.
api_type	No	String	API type Enumerated values: <ul style="list-style-type: none"> • API_SPECIFIC_TYPE_CONFIGURATION: configuration API • API_SPECIFIC_TYPE_SCRIPT: script API • API_SPECIFIC_TYPE_MYBATIS: MyBatis API • API_SPECIFIC_TYPE_GROOVY: Groovy API • API_SPECIFIC_TYPE_REGISTER: registered API • API_SPECIFIC_TYPE_ORCHESTRATE: orchestrated API • API_TYPE_CREATE: created API (obsolete) • API_TYPE_REGISTER: registered API (obsolete)

Parameter	Mandatory	Type	Description
auth_type	No	String	Authentication mode Enumerated values: <ul style="list-style-type: none"> • APP: app secret • IAM: IAM token • NONE: authentication disabled
retention_period	No	Integer	Minimum retention period in hours
manager	No	String	API reviewer
path	No	String	API path
protocol	No	String	API request protocol type. Enumerated values: <ul style="list-style-type: none"> • PROTOCOL_TYPE_HTTP: HTTP • PROTOCOL_TYPE_HTTPS: HTTPS
request_type	No	String	Request type Enumerated values: <ul style="list-style-type: none"> • REQUEST_TYPE_POST: POST • REQUEST_TYPE_GET: GET
tags	No	Array of strings	Tag
visibility	No	String	API visibility Enumerated values: <ul style="list-style-type: none"> • WORKSPACE: visible to a workspace • PROJECT: visible to a project • DOMAIN: visible to a tenant
publish_type	No	String	Publishing type (obsolete) Enumerated values: <ul style="list-style-type: none"> • PUBLISH_TYPE_PUBLIC: public • PUBLISH_TYPE_PRIVATE: private
data_mask_switch	No	Boolean	Whether to enable data masking

Parameter	Mandatory	Type	Description
data_mask_params	No	Array of DataMaskParams objects	Data masking parameters
body	No	String	Request body description. It is available for registration APIs only.
datasource_config_list	No	Array of DatasourceConfig objects	Configuration of multiple data sources. It is available for Groovy APIs only.
groovy_content	No	String	Groovy text. It is available for Groovy APIs only.
request_params	No	Array of RequestParam objects	List of API request parameters.
datasource_config	No	DatasourceConfig object	API data source configuration.
backend_config	No	BackendConfig object	API backend configuration. It is available for registration APIs only.

Table 9-25 DataMaskParams

Parameter	Mandatory	Type	Description
column_name	No	String	Sensitive field
algorithm_name	No	String	Algorithm name
algorithm_type	No	String	Algorithm type
en_name	No	String	Algorithm name
algorithm_parameters	No	String	Parameter
failure_policy	No	String	Failure policy Enumerated values: <ul style="list-style-type: none"> • SKIP • INTERRUPT_AND_EXCEPTION • SET_NULL • DEFAULT_VALUE

Table 9-26 DatasourceConfig

Parameter	Mandatory	Type	Description
type	No	String	Data source type. Enumerated values: <ul style="list-style-type: none">• MYSQL• DLI• DWS• HIVE• HBASE
connection_name	No	String	Name of a data connection.
connection_id	No	String	Data connection ID.
database	No	String	Indicates the database name.
datatable	No	String	Name of a data table.
table_id	No	String	Data table ID.
queue	No	String	Queue name of DLI.
access_mode	No	String	Mode for obtaining data Enumerated values: <ul style="list-style-type: none">• SQL: SQL• ROW_KEY: ROW_KEY, available only for HBase• PREFIX_FILTER: PREFIX_FILTER, available only for HBase
access_type	No	String	Mode for obtaining data (obsolete) Enumerated values: <ul style="list-style-type: none">• SCRIPT: script• CONFIGURAITON: configuration
pagination	No	String	Pagination mode Enumerated values: <ul style="list-style-type: none">• DEFAULT: default• CUSTOM: custom
sql	No	String	SQL statement in script mode
backend_parameters	No	Array of ApiRequestPara objects	API backend parameter.

Parameter	Mandatory	Type	Description
response_params	No	Array of ApiResponsePara objects	Return parameters of configuration APIs.
order_params	No	Array of DatasourceOrderPara objects	Sorting parameter.
total_size_sql	No	String	SQL script for calculating the total number of records

Table 9-27 RequestPara

Parameter	Mandatory	Type	Description
name	No	String	Parameter name
position	No	String	Parameter position Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_POSITION_PATH: request path • REQUEST_PARAMETER_POSITION_HEADER: request header • REQUEST_PARAMETER_POSITION_QUERY: request query
type	No	String	Constant parameter type Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_TYPE_NUMBER: number • REQUEST_PARAMETER_TYPE_STRING: string
description	No	String	Parameter description.
necessary	No	Boolean	Indicates whether a parameter is mandatory.
example_value	No	String	Example value
default_value	No	String	Default value.
support_null	No	Boolean	Null supported

Table 9-28 ApiRequestPara

Parameter	Mandatory	Type	Description
name	No	String	Parameter name
mapping	No	String	Mapping field.
condition	No	String	Operator Enumerated values: <ul style="list-style-type: none"> ● CONDITION_TYPE_EQ: equal to ● CONDITION_TYPE_NE: not equal to ● CONDITION_TYPE_GT: greater than ● CONDITION_TYPE_GE: greater than or equal to ● CONDITION_TYPE_LT: less than ● CONDITION_TYPE_LE: less than or equal to ● CONDITION_TYPE_LIKE: fuzzy search, such as %like % ● CONDITION_TYPE_LIKE_L: fuzzy search, such as %like ● CONDITION_TYPE_LIKE_R: fuzzy search, such as like%

Table 9-29 ApiResponsePara

Parameter	Mandatory	Type	Description
name	No	String	Parameter name
field	No	String	Bound table field.
type	No	String	Constant parameter type Enumerated values: <ul style="list-style-type: none"> ● REQUEST_PARAMETER_TYPE_NUMBER: number ● REQUEST_PARAMETER_TYPE_STRING: string
description	No	String	Parameter description.
example_value	No	String	Example value of a parameter.

Table 9-30 DatasourceOrderPara

Parameter	Mandatory	Type	Description
name	No	String	Name of a sorting parameter.
field	No	String	Indicates the corresponding parameter field.
optional	No	Boolean	Indicates whether the parameter is optional.
sort	No	String	Sorting method Enumerated values: <ul style="list-style-type: none">• ASC: ascending order• DESC: descending order• CUSTOM: custom order
order	No	Integer	Sequence of sorting parameters.
description	No	String	Sorting parameter description

Table 9-31 BackendConfig

Parameter	Mandatory	Type	Description
type	No	String	Request type <ul style="list-style-type: none">• REQUEST_TYPE_POST: POST request• REQUEST_TYPE_GET: GET request
protocol	No	String	API request protocol type <ul style="list-style-type: none">• PROTOCOL_TYPE_HTTP: HTTP• PROTOCOL_TYPE_HTTPS: HTTPS
host	No	String	Backend host
timeout	No	Integer	Backend timeout interval.
path	No	String	Backend request path
backend_parameters	No	Array of BackendRequestPara objects	API backend parameter.

Parameter	Mandatory	Type	Description
constant_parameters	No	Array of BackendConstant objects	Backend constant parameter.

Table 9-32 BackendRequestPara

Parameter	Mandatory	Type	Description
name	No	String	API request parameter name
position	No	String	Parameter position Enumerated values: <ul style="list-style-type: none">• REQUEST_PARAMETER_POSITION_PATH: request path• REQUEST_PARAMETER_POSITION_HEADER: request header• REQUEST_PARAMETER_POSITION_QUERY: request query
backend_parameter_name	No	String	Backend parameter.

Table 9-33 BackendConstant

Parameter	Mandatory	Type	Description
name	No	String	Name of a constant parameter.
type	No	String	Constant parameter type Enumerated values: <ul style="list-style-type: none">• REQUEST_PARAMETER_TYPE_NUMBER: number• REQUEST_PARAMETER_TYPE_STRING: string

Parameter	Mandatory	Type	Description
position	No	String	Parameter position Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_POSITION_PATH: request path • REQUEST_PARAMETER_POSITION_HEADER: request header • REQUEST_PARAMETER_POSITION_QUERY: request query
description	No	String	Constant parameter description.
value	No	String	Constant parameter value.

Response Parameters

Status code: 400

Table 9-34 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Update the API whose ID is 10e3a4b67f59a9efe64e6bb31859221f.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/10e3a4b67f59a9efe64e6bb31859221f
```

```
{
  "catalog_id": "0",
  "name": "creat_test0010001",
  "description": "dws",
  "log_flag": false,
  "auth_type": "APP",
  "retention_period": 0,
  "publish_type": "PUBLISH_TYPE_PRIVATE",
  "manager": "user",
  "path": "/creat_test001/{p}",
  "api_type": "API_SPECIFIC_TYPE_SCRIPT",
  "protocol": "PROTOCOL_TYPE_HTTPS",
  "request_type": "REQUEST_TYPE_GET",
  "request_paras": [ {
    "name": "p",
    "position": "REQUEST_PARAMETER_POSITION_PATH",
    "type": "REQUEST_PARAMETER_TYPE_NUMBER",
    "description": "test",
    "necessary": true,
```

```
"example_value" : null,
"support_null" : true,
"default_value" : null
}],
"datasource_config" : {
  "type" : "CLICKHOUSE",
  "connection_name" : "clickhouse_ywx1119238_safe",
  "connection_id" : "3d0d5941f2cb4ef08abecc01e33eabec",
  "database" : "system",
  "queue" : "dayu",
  "access_type" : "CONNECTION_TYPE_SCRIPT",
  "access_mode" : "SQL",
  "sql" : "c2VsZWN0IDEgYXMgbnVtOw==",
  "backend_paras" : [ ],
  "order_paras" : [ ],
  "pagination" : "DEFAULT"
},
"visibility" : "WORKSPACE"
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Update the API whose ID is 10e3a4b67f59a9efe64e6bb31859221f.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class UpdateApiSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
```



```
.build();
UpdateApiRequest request = new UpdateApiRequest();
request.withApild("{api_id}");
Api body = new Api();
DatasourceConfig datasourceConfigbody = new DatasourceConfig();
datasourceConfigbody.withType(DatasourceConfig.TypeEnum.fromValue("CLICKHOUSE"))
    .withConnectionName("clickhouse_ywx1119238_safe")
    .withConnectionId("3d0d5941f2cb4ef08abec01e33eabec")
    .withDatabase("system")
    .withQueue("dayu")
    .withAccessType(DatasourceConfig.AccessTypeEnum.fromValue("CONNECTION_TYPE_SCRIPT"))
    .withAccessMode(DatasourceConfig.AccessModeEnum.fromValue("SQL"))
    .withPagination(DatasourceConfig.PaginationEnum.fromValue("DEFAULT"))
    .withSql("c2VsZWN0IDFgYXN0MgVtOw==");
List<RequestPara> listbodyRequestParas = new ArrayList<>();
listbodyRequestParas.add(
    new RequestPara()
        .withName("p")
        .withPosition(RequestPara.PositionEnum.fromValue("REQUEST_PARAMETER_POSITION_PATH"))
        .withType(RequestPara.TypeEnum.fromValue("REQUEST_PARAMETER_TYPE_NUMBER"))
        .withDescription("test")
        .withNecessary(true)
);
body.withDatasourceConfig(datasourceConfigbody);
body.withRequestParas(listbodyRequestParas);
body.withVisibility(Api.VisibilityEnum.fromValue("WORKSPACE"));
body.withRequestType(Api.RequestTypeEnum.fromValue("REQUEST_TYPE_GET"));
body.withProtocol(Api.ProtocolEnum.fromValue("PROTOCOL_TYPE_HTTPS"));
body.withPath("/creat_test001/{p}");
body.withManager("user");
body.withPublishType(Api.PublishTypeEnum.fromValue("PUBLISH_TYPE_PRIVATE"));
body.withAuthType(Api.AuthTypeEnum.fromValue("APP"));
body.withApiType(Api.ApiTypeEnum.fromValue("API_SPECIFIC_TYPE_SCRIPT"));
body.withLogFlag(false);
body.withDescription("dws");
body.withName("creat_test0010001");
body.withCatalogId("0");
request.withBody(body);
try {
    UpdateApiResponse response = client.updateApi(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Update the API whose ID is 10e3a4b67f59a9efe64e6bb31859221f.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```

risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.

In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = UpdateApiRequest()
    request.api_id = "{api_id}"
    datasourceConfigbody = DatasourceConfig(
        type="CLICKHOUSE",
        connection_name="clickhouse_ywx1119238_safe",
        connection_id="3d0d5941f2cb4ef08abec01e33eabec",
        database="system",
        queue="dayu",
        access_type="CONNECTION_TYPE_SCRIPT",
        access_mode="SQL",
        pagination="DEFAULT",
        sql="c2VsZWN0IDFgYXN0IDVtOw=="
    )
    listRequestParasbody = [
        RequestPara(
            name="p",
            position="REQUEST_PARAMETER_POSITION_PATH",
            type="REQUEST_PARAMETER_TYPE_NUMBER",
            description="test",
            necessary=True
        )
    ]
    request.body = Api(
        datasource_config=datasourceConfigbody,
        request_paras=listRequestParasbody,
        visibility="WORKSPACE",
        request_type="REQUEST_TYPE_GET",
        protocol="PROTOCOL_TYPE_HTTPS",
        path="/creat_test001/{p}",
        manager="user",
        publish_type="PUBLISH_TYPE_PRIVATE",
        auth_type="APP",
        api_type="API_SPECIFIC_TYPE_SCRIPT",
        log_flag=False,
        description="dws",
        name="creat_test0010001",
        catalog_id="0"
    )
    response = client.update_api(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Update the API whose ID is 10e3a4b67f59a9efe64e6bb31859221f.

```
package main

import (
```

```
"fmt"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateApiRequest{}
    request.ApiId = "{api_id}"
    typeDatasourceConfig:= model.GetDatasourceConfigTypeEnum().CLICKHOUSE
    connectionNameDatasourceConfig:= "clickhouse_ywx1119238_safe"
    connectionIdDatasourceConfig:= "3d0d5941f2cb4ef08abecc01e33eabec"
    databaseDatasourceConfig:= "system"
    queueDatasourceConfig:= "dayu"
    accessTypeDatasourceConfig:=
model.GetDatasourceConfigAccessTypeEnum().CONNECTION_TYPE_SCRIPT
    accessModeDatasourceConfig:= model.GetDatasourceConfigAccessModeEnum().SQL
    paginationDatasourceConfig:= model.GetDatasourceConfigPaginationEnum().DEFAULT
    sqlDatasourceConfig:= "c2VsZWN0IDegYXMgbnVtOw=="
    datasourceConfigbody := &model.DatasourceConfig{
        Type: &typeDatasourceConfig,
        ConnectionName: &connectionNameDatasourceConfig,
        ConnectionId: &connectionIdDatasourceConfig,
        Database: &databaseDatasourceConfig,
        Queue: &queueDatasourceConfig,
        AccessType: &accessTypeDatasourceConfig,
        AccessMode: &accessModeDatasourceConfig,
        Pagination: &paginationDatasourceConfig,
        Sql: &sqlDatasourceConfig,
    }
    nameRequestParas:= "p"
    positionRequestParas:= model.GetRequestParaPositionEnum().REQUEST_PARAMETER_POSITION_PATH
    typeRequestParas:= model.GetRequestParaTypeEnum().REQUEST_PARAMETER_TYPE_NUMBER
    descriptionRequestParas:= "test"
    necessaryRequestParas:= true
    var listRequestParasbody = []model.RequestPara{
        {
            Name: &nameRequestParas,
            Position: &positionRequestParas,
            Type: &typeRequestParas,
            Description: &descriptionRequestParas,
            Necessary: &necessaryRequestParas,
        },
    }
    visibilityApi:= model.GetApiVisibilityEnum().WORKSPACE
    requestTypeApi:= model.GetApiRequestTypeEnum().REQUEST_TYPE_GET
    protocolApi:= model.GetApiProtocolEnum().PROTOCOL_TYPE_HTTPS
```

```
pathApi:= "/creat_test001/{p}"
managerApi:= "user"
publishTypeApi:= model.GetApiPublishTypeEnum().PUBLISH_TYPE_PRIVATE
authTypeApi:= model.GetApiAuthTypeEnum().APP
apiTypeApi:= model.GetApiApiTypeEnum().API_SPECIFIC_TYPE_SCRIPT
logFlagApi:= false
descriptionApi:= "dws"
nameApi:= "creat_test0010001"
catalogIdApi:= "0"
request.Body = &model.Api{
    DatasourceConfig: datasourceConfigbody,
    RequestParas: &listRequestParasbody,
    Visibility: &visibilityApi,
    RequestType: &requestTypeApi,
    Protocol: &protocolApi,
    Path: &pathApi,
    Manager: &managerApi,
    PublishType: &publishTypeApi,
    AuthType: &authTypeApi,
    ApiType: &apiTypeApi,
    LogFlag: &logFlagApi,
    Description: &descriptionApi,
    Name: &nameApi,
    CatalogId: &catalogIdApi,
}
response, err := client.UpdateApi(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	Success
400	Bad request

9.1.4 Querying API Information

Function

This API is used to query API information.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/apis/{api_id}

Table 9-35 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID.

Request Parameters

Table 9-36 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-37 Response body parameters

Parameter	Type	Description
id	String	API ID
name	String	API name
group_id	String	ID of the group to which the API belongs (shared edition).
description	String	API description
protocol	String	API request protocol type. Enumerated values: <ul style="list-style-type: none">● PROTOCOL_TYPE_HTTP: HTTP● PROTOCOL_TYPE_HTTPS: HTTPS
publish_type	String	Publishing type (obsolete) Enumerated values: <ul style="list-style-type: none">● PUBLISH_TYPE_PUBLIC: public● PUBLISH_TYPE_PRIVATE: private
log_flag	Boolean	Indicates whether to enable the log recording function.
path	String	API URL.
host	String	Specifies the domain name of the shared edition.
hosts	InstanceHostDTO object	Exclusive domain name.
request_type	String	Request type Enumerated values: <ul style="list-style-type: none">● REQUEST_TYPE_POST: POST● REQUEST_TYPE_GET: GET
create_user	String	API creator.
create_time	Long	Creation time.
update_time	Long	Update time.
manager	String	Name of the API reviewer

Parameter	Type	Description
status	String	<p>API status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_STATUS_CREATED: created • API_STATUS_PUBLISH_WAIT_REVIEW: waiting for review • API_STATUS_PUBLISH_REJECT: rejected • API_STATUS_PUBLISHED: published • API_STATUS_WAITING_STOP: waiting to be stopped • API_STATUS_STOPPED: stopped • API_STATUS_RECOVER_WAIT_REVIEW: waiting to be recovered • API_STATUS_WAITING_OFFLINE: waiting to be suspended • API_STATUS_OFFLINE: suspended • API_STATUS_OFFLINE_WAIT_REVIEW: waiting to be reviewed for suspension
type	String	<p>API type</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_SPECIFIC_TYPE_CONFIGURATION: configuration API • API_SPECIFIC_TYPE_SCRIPT: script API • API_SPECIFIC_TYPE_REGISTER: registered API
debug_status	String	<p>API debugging status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_DEBUG_WAITING: waiting to be debugged • API_DEBUG_FAILED: debugging failed • API_DEBUG_SUCCESS: debugging successful
publish_messages	Array of ApiPublishDTO objects	Release information list (exclusive edition).

Parameter	Type	Description
request_paras	Array of RequestPara objects	API request parameter.
datasource_config	DatasourceConfig object	Configure the data source.
backend_config	BackendConfig object	Backend settings:

Table 9-38 InstanceHostDTO

Parameter	Type	Description
instance_id	String	Cluster ID
instance_name	String	Cluster name.
intranet_host	String	Internal IP address.
external_host	String	External IP address.
domains	Array of strings	Domain name of the gateway.

Table 9-39 ApiPublishDTO

Parameter	Type	Description
id	String	Release ID.
api_id	String	API ID
instance_id	String	Cluster ID
instance_name	String	Cluster Name

Parameter	Type	Description
api_status	String	<p>API status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_STATUS_CREATED: created • API_STATUS_PUBLISH_WAIT_REVIEW: waiting for review • API_STATUS_PUBLISH_REJECT: rejected • API_STATUS_PUBLISHED: published • API_STATUS_WAITING_STOP: waiting to be stopped • API_STATUS_STOPPED: stopped • API_STATUS_RECOVER_WAIT_REVIEW: waiting to be recovered • API_STATUS_WAITING_OFFLINE: waiting to be suspended • API_STATUS_OFFLINE: suspended • API_STATUS_OFFLINE_WAIT_REVIEW: waiting to be reviewed for suspension
api_debug	String	<p>API debugging status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_DEBUG_WAITING: waiting to be debugged • API_DEBUG_FAILED: debugging failed • API_DEBUG_SUCCESS: debugging successful

Table 9-40 RequestPara

Parameter	Type	Description
name	String	Parameter name

Parameter	Type	Description
position	String	Parameter position Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_POSITION_PATH: request path • REQUEST_PARAMETER_POSITION_HEADER: request header • REQUEST_PARAMETER_POSITION_QUERY: request query
type	String	Constant parameter type Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_TYPE_NUMBER: number • REQUEST_PARAMETER_TYPE_STRING: string
description	String	Parameter description.
necessary	Boolean	Indicates whether a parameter is mandatory.
example_value	String	Example value
default_value	String	Default value.
support_null	Boolean	Null supported

Table 9-41 DatasourceConfig

Parameter	Type	Description
type	String	Data source type. Enumerated values: <ul style="list-style-type: none"> • MYSQL • DLI • DWS • HIVE • HBASE
connection_name	String	Name of a data connection.
connection_id	String	Data connection ID.
database	String	Indicates the database name.
datatable	String	Name of a data table.
table_id	String	Data table ID.

Parameter	Type	Description
queue	String	Queue name of DLI.
access_mode	String	Mode for obtaining data Enumerated values: <ul style="list-style-type: none">• SQL: SQL• ROW_KEY: ROW_KEY, available only for HBase• PREFIX_FILTER: PREFIX_FILTER, available only for HBase
access_type	String	Mode for obtaining data (obsolete) Enumerated values: <ul style="list-style-type: none">• SCRIPT: script• CONFIGURAITON: configuration
pagination	String	Pagination mode Enumerated values: <ul style="list-style-type: none">• DEFAULT: default• CUSTOM: custom
sql	String	SQL statement in script mode
backend_paras	Array of ApiRequestPara objects	API backend parameter.
response_paras	Array of ApiResponsePara objects	Return parameters of configuration APIs.
order_paras	Array of DatasourceOrderPara objects	Sorting parameter.
total_size_sql	String	SQL script for calculating the total number of records

Table 9-42 ApiRequestPara

Parameter	Type	Description
name	String	Parameter name
mapping	String	Mapping field.

Parameter	Type	Description
condition	String	Operator Enumerated values: <ul style="list-style-type: none"> • CONDITION_TYPE_EQ: equal to • CONDITION_TYPE_NE: not equal to • CONDITION_TYPE_GT: greater than • CONDITION_TYPE_GE: greater than or equal to • CONDITION_TYPE_LT: less than • CONDITION_TYPE_LE: less than or equal to • CONDITION_TYPE_LIKE: fuzzy search, such as %like% • CONDITION_TYPE_LIKE_L: fuzzy search, such as %like • CONDITION_TYPE_LIKE_R: fuzzy search, such as like%

Table 9-43 ApiResponsePara

Parameter	Type	Description
name	String	Parameter name
field	String	Bound table field.
type	String	Constant parameter type Enumerated values: <ul style="list-style-type: none"> • REQUEST_PARAMETER_TYPE_NUMBER: number • REQUEST_PARAMETER_TYPE_STRING: string
description	String	Parameter description.
example_value	String	Example value of a parameter.

Table 9-44 DatasourceOrderPara

Parameter	Type	Description
name	String	Name of a sorting parameter.

Parameter	Type	Description
field	String	Indicates the corresponding parameter field.
optional	Boolean	Indicates whether the parameter is optional.
sort	String	Sorting method Enumerated values: <ul style="list-style-type: none"> • ASC: ascending order • DESC: descending order • CUSTOM: custom order
order	Integer	Sequence of sorting parameters.
description	String	Sorting parameter description

Table 9-45 BackendConfig

Parameter	Type	Description
type	String	Request type <ul style="list-style-type: none"> • REQUEST_TYPE_POST: POST request • REQUEST_TYPE_GET: GET request
protocol	String	API request protocol type <ul style="list-style-type: none"> • PROTOCOL_TYPE_HTTP: HTTP • PROTOCOL_TYPE_HTTPS: HTTPS
host	String	Backend host
timeout	Integer	Backend timeout interval.
path	String	Backend request path
backend_paras	Array of BackendRequestPara objects	API backend parameter.
constant_paras	Array of BackendConstant objects	Backend constant parameter.

Table 9-46 BackendRequestPara

Parameter	Type	Description
name	String	API request parameter name

Parameter	Type	Description
position	String	Parameter position Enumerated values: <ul style="list-style-type: none">• REQUEST_PARAMETER_POSITION_PATH: request path• REQUEST_PARAMETER_POSITION_HEADER: request header• REQUEST_PARAMETER_POSITION_QUERY: request query
backend_para_name	String	Backend parameter.

Table 9-47 BackendConstant

Parameter	Type	Description
name	String	Name of a constant parameter.
type	String	Constant parameter type Enumerated values: <ul style="list-style-type: none">• REQUEST_PARAMETER_TYPE_NUMBER: number• REQUEST_PARAMETER_TYPE_STRING: string
position	String	Parameter position Enumerated values: <ul style="list-style-type: none">• REQUEST_PARAMETER_POSITION_PATH: request path• REQUEST_PARAMETER_POSITION_HEADER: request header• REQUEST_PARAMETER_POSITION_QUERY: request query
description	String	Constant parameter description.
value	String	Constant parameter value.

Status code: 400**Table 9-48** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

Query the API whose ID is 10e3a4b67f59a9efe64e6bb31859221f.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/10e3a4b67f59a9efe64e6bb31859221f
```

Example Responses

Status code: 200

Success

```
{
  "id": "6b9e682fd6d0ef7c0f674701adb20762",
  "name": "testApi",
  "group_id": "677942eeca42b85d82fcef909d8345f4",
  "description": "",
  "protocol": "PROTOCOL_TYPE_HTTP",
  "publish_type": "PUBLISH_TYPE_PUBLIC",
  "log_flag": true,
  "path": "/testApi/{a}",
  "host": null,
  "hosts": null,
  "request_type": "REQUEST_TYPE_POST",
  "create_time": 1579162215000,
  "update_time": 1579162691000,
  "manager": "admin",
  "status": "API_STATUS_CREATED",
  "type": "API_SPECIFIC_TYPE_CONFIGURATION",
  "debug_status": "API_DEBUG_WAITING",
  "request_paras": [ {
    "name": "a",
    "position": "REQUEST_PARAMETER_POSITION_PATH",
    "type": "REQUEST_PARAMETER_TYPE_NUMBER",
    "description": "",
    "necessary": false,
    "example_value": "",
    "default_value": ""
  }, {
    "name": "b",
    "position": "REQUEST_PARAMETER_POSITION_HEADER",
    "type": "REQUEST_PARAMETER_TYPE_NUMBER",
    "description": "",
    "necessary": false,
    "example_value": "",
    "default_value": ""
  }, {
    "name": "c",
    "position": "REQUEST_PARAMETER_POSITION_QUERY",
    "type": "REQUEST_PARAMETER_TYPE_NUMBER",
    "description": "",
    "necessary": false,
    "example_value": "",
    "default_value": ""
  } ],
  "datasource_config": null,
  "backend_config": {
    "type": "REQUEST_TYPE_GET",
    "protocol": "PROTOCOL_TYPE_HTTP",
    "timeout": "100",
  }
}
```

```
"host" : "www.baidu.com",
"path" : "/testApi/{d}/{g}",
"backend_paras" : [ {
  "name" : "a",
  "position" : "REQUEST_PARAMETER_POSITION_PATH",
  "backend_para_name" : "d"
}, {
  "name" : "b",
  "position" : "REQUEST_PARAMETER_POSITION_QUERY",
  "backend_para_name" : "e"
}, {
  "name" : "c",
  "position" : "REQUEST_PARAMETER_POSITION_HEADER",
  "backend_para_name" : "f"
} ],
"constant_paras" : [ {
  "name" : "g",
  "type" : "REQUEST_PARAMETER_TYPE_NUMBER",
  "position" : "REQUEST_PARAMETER_POSITION_PATH",
  "description" : "",
  "value" : "1"
}, {
  "name" : "h",
  "type" : "REQUEST_PARAMETER_TYPE_NUMBER",
  "position" : "REQUEST_PARAMETER_POSITION_QUERY",
  "description" : "",
  "value" : "1"
}, {
  "name" : "j",
  "type" : "REQUEST_PARAMETER_TYPE_NUMBER",
  "position" : "REQUEST_PARAMETER_POSITION_HEADER",
  "description" : "",
  "value" : "1"
} ]
}
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowApiSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
```



```
.withProjectId(projectId)
.withAk(ak)
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ShowApiRequest request = new ShowApiRequest();
request.withApiId("{api_id}");
try {
    ShowApiResponse response = client.showApi(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowApiRequest()
        request.api_id = "{api_id}"
        response = client.show_api(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main
```

```
import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowApiRequest{}
    request.ApiId = "{api_id}"
    response, err := client.ShowApi(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.1.5 Deleting APIs

Function

This API is used to delete APIs in batches.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/apis/batch-delete

Table 9-49 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-50 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-51 Request body parameters

Parameter	Mandatory	Type	Description
[items]	Yes	Array of strings	API deletion ID list.

Response Parameters

Status code: 400

Table 9-52 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete APIs.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/batch-delete  
[ "62a02822ae8d06f38f4950bd680e2735" ]
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Delete APIs.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteApiSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteApiRequest request = new DeleteApiRequest();
        List<String> listbodyApiDeleteDTO = new ArrayList<>();
        listbodyApiDeleteDTO.add("62a02822ae8d06f38f4950bd680e2735");
        request.withBody(listbodyApiDeleteDTO);
        try {
            DeleteApiResponse response = client.deleteApi(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Delete APIs.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
```

```
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteApiRequest()
        listApiDeleteDTObody = [
            "62a02822ae8d06f38f4950bd680e2735"
        ]
        request.body = listApiDeleteDTObody
        response = client.delete_api(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Delete APIs.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
```

```
Build()  
  
request := &model.DeleteApiRequest{}  
var listApiDeleteDTObody = []string{  
    "62a02822ae8d06f38f4950bd680e2735",  
}  
request.Body = &listApiDeleteDTObody  
response, err := client.DeleteApi(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	Success
400	Bad request

9.1.6 Publishing an API

Function

Publish the API Only published APIs can be called. You can choose to publish an API to a specified gateway.

- Shared version, which must be sent to the shared version of API Gateway.
- Exclusive: You can choose to send APIs to API Gateway Exclusive, ROMA-APIC, or not to publish the gateway as required.

If the initiator of the release request is not the reviewer, the API reviewer needs to review the application.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/apis/{api_id}/instances/{instance_id}/publish

Table 9-53 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID
instance_id	Yes	String	Cluster ID

Request Parameters

Table 9-54 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-55 Request body parameters

Parameter	Mandatory	Type	Description
apig_type	No	String	Gateway type Enumerated values: <ul style="list-style-type: none">• APIG• APIGW• ROMA_APIC
apig_instance_id	No	String	Specifies the gateway instance ID.
group_id_in_apig	No	String	Gateway group ID.
roma_app_id	No	String	ID of the ROMA gateway integration application.

Response Parameters

Status code: 400

Table 9-56 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Publish the API whose ID is **760715eb1bfce0c575abab3be3bd41e6** to a cluster.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/760715eb1bfce0c575abab3be3bd41e6/instances/21398ikjdsjd9087122d4e/publish
```

```
{  
  "apig_type": "APIG",  
  "apig_instance_id": "APIG",  
  "group_id_in_apig": "c4ba07ad2ae14015921c36aa4136e14c"  
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Publish the API whose ID is **760715eb1bfce0c575abab3be3bd41e6** to a cluster.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class PublishApiToInstanceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        PublishApiToInstanceRequest request = new PublishApiToInstanceRequest();
        request.withApiId("{api_id}");
        request.withInstanceId("{instance_id}");
        GatewayDTO body = new GatewayDTO();
        body.withGroupIdInApig("c4ba07ad2ae14015921c36aa4136e14c");
        body.withApigInstanceId("APIG");
        body.withApigType(GatewayDTO.ApigTypeEnum.fromValue("APIG"));
        request.withBody(body);
        try {
            PublishApiToInstanceResponse response = client.publishApiToInstance(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Publish the API whose ID is **760715eb1bfce0c575abab3be3bd41e6** to a cluster.

```
# coding: utf-8
```

```
import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = PublishApiToInstanceRequest()
        request.api_id = "{api_id}"
        request.instance_id = "{instance_id}"
        request.body = GatewayDTO(
            group_id_in_apig="c4ba07ad2ae14015921c36aa4136e14c",
            apig_instance_id="APIG",
            apig_type="APIG"
        )
        response = client.publish_api_to_instance(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Publish the API whose ID is **760715eb1bfce0c575abab3be3bd41e6** to a cluster.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()
```

```
client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.PublishApiToInstanceRequest{}
request.ApiId = "{api_id}"
request.InstanceId = "{instance_id}"
groupIdInApigGatewayDto:= "c4ba07ad2ae14015921c36aa4136e14c"
apigInstanceIdGatewayDto:= "APIG"
apigTypeGatewayDto:= model.GetGatewayDtoToApigTypeEnum().APIG
request.Body = &model.GatewayDto{
    GroupIdInApig: &groupIdInApigGatewayDto,
    ApigInstanceId: &apigInstanceIdGatewayDto,
    ApigType: &apigTypeGatewayDto,
}
response, err := client.PublishApiToInstance(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	The API operation is successful.
400	Bad request

9.1.7 API operations (offline/suspension/resumption)

Function

- Bring the API offline. Take a published API offline. After the API is unpublished, its authorization will be canceled and the API cannot be called.
- Disable an API. Temporarily take a published API offline. After the API is suspended, its authorization will be retained. The API cannot be called during the suspension.
- Restore the API. This API is used to resume a disabled API. After the API is restored, it can be called again.

 NOTE

- If the initiator of the resumption request is not the reviewer, the API reviewer needs to review the application.
- Initiator of the request for bringing an API offline or disabling an API. The initiator must be the API reviewer.
- The offline/disable function requires sufficient preparation time for authorized applications. A request must be initiated at least two days in advance. If you need to unpublish or suspend an API immediately, your requested action will be taken only after all apps finish processing messages.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/apis/{api_id}/instances/{instance_id}/action

Table 9-57 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID
instance_id	Yes	String	Cluster ID

Request Parameters

Table 9-58 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-59 Request body parameters

Parameter	Mandatory	Type	Description
time	No	String	End time.
action	No	String	Operation type Enumerated values: <ul style="list-style-type: none"> ● UNPUBLISH: unpublishing an API ● STOP: stopping an API ● RECOVER: recovering an API

Response Parameters

Status code: 400

Table 9-60 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Unpublish, suspend, or recover the API whose ID is 760715eb1bfce0c575abab3be3bd41e6 in the cluster whose ID is 51159105c7838353d2834181d978af50.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/760715eb1bfce0c575abab3be3bd41e6/instances/51159105c7838353d2834181d978af50/action
{
  "action" : "UNPUBLISH",
  "time" : "2022-03-25T10:00:00.000Z"
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Unpublish, suspend, or recover the API whose ID is 760715eb1bfce0c575abab3be3bd41e6 in the cluster whose ID is 51159105c7838353d2834181d978af50.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ExecuteApiToInstanceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ExecuteApiToInstanceRequest request = new ExecuteApiToInstanceRequest();
        request.withApiId("{api_id}");
        request.withInstanceId("{instance_id}");
```

```
ApiOperationDTO body = new ApiActionDTO();
body.withAction(ApiActionDTO.ActionEnum.fromValue("UNPUBLISH"));
body.withTime("2022-03-25T10:00:00.000Z");
request.withBody(body);
try {
    ExecuteApiToInstanceResponse response = client.executeApiToInstance(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Unpublish, suspend, or recover the API whose ID is 760715eb1bfce0c575abab3be3bd41e6 in the cluster whose ID is 51159105c7838353d2834181d978af50.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ExecuteApiToInstanceRequest()
        request.api_id = "{api_id}"
        request.instance_id = "{instance_id}"
        request.body = ApiActionDTO(
            action="UNPUBLISH",
            time="2022-03-25T10:00:00.000Z"
        )
        response = client.execute_api_to_instance(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```


Go

Unpublish, suspend, or recover the API whose ID is 760715eb1bfce0c575abab3be3bd41e6 in the cluster whose ID is 51159105c7838353d2834181d978af50.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ExecuteApiToInstanceRequest{}
    request.ApiId = "{api_id}"
    request.InstanceId = "{instance_id}"
    actionApiActionDto := model.GetApiActionDtoActionEnum().UNPUBLISH
    timeApiActionDto := "2022-03-25T10:00:00.000Z"
    request.Body = &model.ApiActionDto{
        Action: &actionApiActionDto,
        Time: &timeApiActionDto,
    }
    response, err := client.ExecuteApiToInstance(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	The API operation is successful.
400	Bad request

9.1.8 Batch Authorization API (Exclusive Edition)

Function

An app cannot access any APIs after being created. To enable an app to access an API, authorize the API to the app. After the authorization is successful, the app can access the API within the validity period.

API authorization includes authorization and renewal.

- Authorization: Apps are granted the right to access APIs within the validity period.
- Renewal: The validity period of the authorization is updated during renewal. The validity period can be extended but cannot be reduced.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/apis/{api_id}/instances/{instance_id}/authorize

Table 9-61 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID
instance_id	Yes	String	Cluster ID

Request Parameters

Table 9-62 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-63 Request body parameters

Parameter	Mandatory	Type	Description
time	No	String	End time.
app_ids	No	Array of strings	App IDs

Response Parameters

Status code: 400

Table 9-64 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Authorize or renew the API whose ID is 760715eb1bfce0c575abab3be3bd41e6 in the cluster whose ID is 51159105c7838353d2834181d978af50.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/760715eb1bfce0c575abab3be3bd41e6/instances/51159105c7838353d2834181d978af50/authorize
{
  "app_ids" : [ "efa895e32e758bd316726b196ca1e8de" ],
  "time" : "2022-03-25T10:00:00.000Z"
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Authorize or renew the API whose ID is 760715eb1bfce0c575abab3be3bd41e6 in the cluster whose ID is 51159105c7838353d2834181d978af50.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class AuthorizeApiToInstanceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
```

```
.withProjectId(projectId)
.withAk(ak)
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
AuthorizeApiToInstanceRequest request = new AuthorizeApiToInstanceRequest();
request.withApiId("{api_id}");
request.withInstanceId("{instance_id}");
ApiParaForAuthorizeToInstance body = new ApiParaForAuthorizeToInstance();
List<String> listbodyAppls = new ArrayList<>();
listbodyAppls.add("efa895e32e758bd316726b196ca1e8de");
body.withAppls(listbodyAppls);
body.withTime("2022-03-25T10:00:00.000Z");
request.withBody(body);
try {
    AuthorizeApiToInstanceResponse response = client.authorizeApiToInstance(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Authorize or renew the API whose ID is 760715eb1bfce0c575abab3be3bd41e6 in the cluster whose ID is 51159105c7838353d2834181d978af50.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = AuthorizeApiToInstanceRequest()
        request.api_id = "{api_id}"
        request.instance_id = "{instance_id}"
        listApplsbody = [
```

```
    "efa895e32e758bd316726b196ca1e8de"  
  ]  
  request.body = ApiParaForAuthorizeToInstance(  
    app_ids=listAppIdsbody,  
    time="2022-03-25T10:00:00.000Z"  
  )  
  response = client.authorize_api_to_instance(request)  
  print(response)  
except exceptions.ClientRequestException as e:  
  print(e.status_code)  
  print(e.request_id)  
  print(e.error_code)  
  print(e.error_msg)
```

Go

Authorize or renew the API whose ID is 760715eb1bfce0c575abab3be3bd41e6 in the cluster whose ID is 51159105c7838353d2834181d978af50.

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build())  
  
    request := &model.AuthorizeApiToInstanceRequest{  
        request.ApiId = "{api_id}"  
        request.InstanceId = "{instance_id}"  
        var listAppIdsbody = []string{  
            "efa895e32e758bd316726b196ca1e8de",  
        }  
        timeApiParaForAuthorizeToInstance:= "2022-03-25T10:00:00.000Z"  
        request.Body = &model.ApiParaForAuthorizeToInstance{  
            AppIds: &listAppIdsbody,  
            Time: &timeApiParaForAuthorizeToInstance,  
        }  
    }  
    response, err := client.AuthorizeApiToInstance(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	The API operation is successful.
400	Bad request

9.1.9 Debugging an API

Function

Debug the API.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/apis/{api_id}/instances/{instance_id}/test

Table 9-65 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID
instance_id	Yes	String	Cluster ID

Request Parameters

Table 9-66 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-67 Request body parameters

Parameter	Mandatory	Type	Description
body	No	String	Request body
paras	No	ApiTestParas object	Indicates the parameter.

Table 9-68 ApiTestParas

Parameter	Mandatory	Type	Description
page_size	No	String	page size.

Parameter	Mandatory	Type	Description
page_num	No	String	page num.

Response Parameters

Status code: 200

Table 9-69 Response body parameters

Parameter	Type	Description
request_id	String	Request ID.
url	String	Request URL.
result	String	Indicates the debugging result.
timeout	Long	Indicates the debugging duration.
success	Boolean	Indicates whether the debugging is successful.
request_header	ApiTestRequestHeader object	Request header
response_header	ApiTestResponseHeader object	Response header.

Table 9-70 ApiTestRequestHeader

Parameter	Type	Description
path	String	Request path
user_agent	String	Proxy (fixed value).
x_apig_mode	String	Request mode (fixed value).
x_app_identity	Integer	Identification number (fixed value).

Table 9-71 ApiTestResponseHeader

Parameter	Type	Description
result_status	String	Whether the request is successful.
content_length	Integer	Content size.
connection	String	Connection status.

Parameter	Type	Description
cache_control	String	Cache control (fixed value).
content_type	String	Content type (fixed value).
date	String	Date.
x_request_id	String	Request ID.

Status code: 400

Table 9-72 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Debug an API.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/760715eb1bfce0c575abab3be3bd41e6/instances/51159105c7838353d2834181d978af50/test
{
  "body": "b",
  "paras": {
    "page_size": "10",
    "page_num": "1"
  }
}
```

Example Responses

Status code: 200

Success

```
{
  "request_header": {
    "path": "GET /testApi/1 HTTP",
    "user_agent": "DLMDebugClient/1.0",
    "x_apig_mode": "DEBUG",
    "x_app_identity": 1
  },
  "request_id": "704742365000242752",
  "response_header": {
    "cache_control": "private",
    "connection": "keep-alive",
    "content_length": 2,
    "content_type": "application/json;charset=UTF-8",
    "date": "Tue Apr 28 17:14:37 GMT+08:00 2020",
    "result_status": "HTTP 200 Success",
    "x_request_id": "704742365000242752"
  },
}
```

```
"result" : "[]",  
"success" : true,  
"timeout" : 3826,  
"url" : "/testApi/1"  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Debug an API.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class DebugApiSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        DebugApiRequest request = new DebugApiRequest();  
        request.withApiId("{api_id}");  
        request.withInstanceId("{instance_id}");  
        ApiTestDTO body = new ApiTestDTO();  
        ApiTestParas parasbody = new ApiTestParas();  
        parasbody.withPageSize("10")  
            .withPageNum("1");  
        body.withParas(parasbody);  
        body.withBody("b");  
        request.withBody(body);  
        try {  
            DebugApiResponse response = client.debugApi(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
        }  
    }  
}
```

```
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Debug an API.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DebugApiRequest()
        request.api_id = "{api_id}"
        request.instance_id = "{instance_id}"
        parasbody = ApiTestParas(
            page_size="10",
            page_num="1"
        )
        request.body = ApiTestDTO(
            paras=parasbody,
            body="b"
        )
        response = client.debug_api(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Debug an API.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
```

```
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build()  
    )  
  
    request := &model.DebugApiRequest{  
        ApiId: "{api_id}"  
        InstanceId: "{instance_id}"  
        PageSizeParas: "10"  
        PageNumParas: "1"  
        parasbody := &model.ApiTestParas{  
            PageSize: &pageSizeParas,  
            PageNum: &pageNumParas,  
        }  
        bodyApiTestDto := "b"  
        request.Body = &model.ApiTestDto{  
            Paras: parasbody,  
            Body: &bodyApiTestDto,  
        }  
    }  
    response, err := client.DebugApi(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.1.10 API authorization operations (authorization/authorization cancellation/application/renewal)

Function

- Proactive API authorization: An API reviewer can initiate an API authorization request. After the API authorization is successful, the app can access the API within the validity period. API authorization includes authorization and renewal.
- Authorization: Apps are granted the right to access APIs within the validity period.
- Renewal: The validity period of the authorization is updated during renewal. The validity period can be extended but cannot be reduced.
- API authorization cancellation: An API reviewer can cancel the authorization relationship between an API and an app. After the API authorization is canceled, the app can no longer call the API. Before performing this operation, reserve at least two days for the app to make preparations.
- App authorization cancellation: The app owner can initiate a request to cancel the authorization relationship between an API and an app. After the API authorization is canceled, the app can no longer call the API. This operation requires no preparation time.
- App authorization application: An app owner can initiate an application for an API. After the application is approved by the API reviewer, the app can access the API. The authorization grants the app the right to access the API within the validity period. The API review is required.
- App renewal: The app owner can initiate a renewal request. The renewal will update the authorization validity period. The validity period can be extended but cannot be reduced. The renewal needs to be reviewed by the API.

NOTE

- It is recommended that you apply for your own API authorization or renewal without approval.
- It is recommended that the app be used to cancel the authorization. No preparation time needs to be reserved.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/apis/authorize/action

Table 9-73 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-74 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-75 Request body parameters

Parameter	Mandatory	Type	Description
api_id	No	String	API ID
instance_id	No	String	Cluster ID
app_id	No	String	App ID
apply_type	No	String	Application type Enumerated values: <ul style="list-style-type: none"> ● APPLY_TYPE_AUTHORIZE: authorizing an API to an app ● APPLY_TYPE_API_CANCEL_AUTHORIZE: canceling API authorization ● APPLY_TYPE_APP_CANCEL_AUTHORIZE: canceling app authorization ● APPLY_TYPE_APPLY: reviewing an API ● APPLY_TYPE_RENEW: renewing an API
time	No	String	End time.

Response Parameters

Status code: 400

Table 9-76 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Authorize an API to an app./Cancel API authorization (by the API reviewer)./Cancel API authorization (by the app owner)./Apply for authorization./Renew the validity period.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/authorize/action
```

```
{
  "api_id" : "47046fe7830c1be77cb0dc23bd86afa5",
  "instance_id" : "21398ikjdsjd9087122d4e",
  "app_id" : "908489209a320df61607355c57c82882",
```



```
"apply_type" : "APPLY_TYPE_AUTHORIZE",  
"time" : "2021-01-01T10:00:00.000Z"  
}
```

Example Responses

None

Status Codes

Status Code	Description
204	The API operation is successful.
400	Bad request

9.1.11 Querying API Publishing Messages in DLM Exclusive

Function

This API is used to query the API publishing messages in different clusters.

After an API operation (such as debugging and registration) is performed in a cluster, API publishing messages are generated.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/apis/{api_id}/publish-info

Table 9-77 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID

Table 9-78 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-79 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-80 Response body parameters

Parameter	Type	Description
total	Integer	Total number.
publish_messages	Array of ApiPublishDTO objects	Release information list.

Table 9-81 ApiPublishDTO

Parameter	Type	Description
id	String	Release ID.
api_id	String	API ID
instance_id	String	Cluster ID
instance_name	String	Cluster Name
api_status	String	API status (DataArts DataService Shared) Enumerated values: <ul style="list-style-type: none"> • API_STATUS_CREATED: created • API_STATUS_PUBLISH_WAIT_REVIEW: waiting for review • API_STATUS_PUBLISH_REJECT: rejected • API_STATUS_PUBLISHED: published • API_STATUS_WAITING_STOP: waiting to be stopped • API_STATUS_STOPPED: stopped • API_STATUS_RECOVER_WAIT_REVIEW: waiting to be recovered • API_STATUS_WAITING_OFFLINE: waiting to be suspended • API_STATUS_OFFLINE: suspended • API_STATUS_OFFLINE_WAIT_REVIEW: waiting to be reviewed for suspension

Parameter	Type	Description
api_debug	String	API debugging status (DataArts DataService Shared) Enumerated values: <ul style="list-style-type: none">• API_DEBUG_WAITING: waiting to be debugged• API_DEBUG_FAILED: debugging failed• API_DEBUG_SUCCESS: debugging successful

Status code: 400

Table 9-82 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the API publishing information in different clusters.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/760715eb1bfce0c575abab3be3bd41e6/publish-info
```

Example Responses

Status code: 200

Success

```
{
  "total": 1,
  "publish_messages": [ {
    "id": "343a6d4c0ad108376ebd060c9c33cc33",
    "api_id": "47046fe7830c1be77cb0dc23bd86afa5",
    "instance_id": "c2e27497562ed193583378e052248003",
    "instance_name": "cluster_test_001",
    "api_status": "API_STATUS_CREATED",
    "api_debug": "API_DEBUG_WAITING"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;
```

```
import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchPublishInfoSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchPublishInfoRequest request = new SearchPublishInfoRequest();
        request.withApiId("{api_id}");
        try {
            SearchPublishInfoResponse response = client.searchPublishInfo(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"
```

```
credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = SearchPublishInfoRequest()
    request.api_id = "{api_id}"
    response = client.search_publish_info(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.SearchPublishInfoRequest{}
    request.ApiId = "{api_id}"
    response, err := client.SearchPublishInfo(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.1.12 Querying Instances for API Operations in DLM Exclusive

Function

This API is used to query instances for API operations (Exclusive Edition).

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/apis/{api_id}/instances

Table 9-83 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID

Table 9-84 Query Parameters

Parameter	Mandatory	Type	Description
action	Yes	String	API operation Enumerated values include: <ul style="list-style-type: none">● PUBLISH: publishing an API● UNPUBLISH: unpublishing an API● STOP: stopping an API● RECOVER: recovering an API● WHITELIST: whitelist-related operations● **AUTHORIZE: authorization
show_all	No	Boolean	All instances (including instances on which the current operation cannot be performed) are displayed.
check_status	No	Boolean	Verify the API status.
check_debug	No	Boolean	API debugging status check
app_id	No	String	App ID, which is used to determine the optional instance of the authorized app
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-85 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-86 Response body parameters

Parameter	Type	Description
instances	Array of InstanceForApiActionDTO objects	Indicates the instance list corresponding to the API operation.

Table 9-87 InstanceForApiActionDTO

Parameter	Type	Description
instance_id	String	Cluster ID
instance_type	String	Cluster type Enumerated values: <ul style="list-style-type: none">● DLM: DataArts DataService cluster● APIG: APIG cluster● APIGW: APIGW cluster● ROMA_APIC: ROMA cluster
name	String	Cluster name
action	String	API operation Enumerated values: <ul style="list-style-type: none">● PUBLISH: publishing an API● UNPUBLISH: unpublishing an API● STOP: stopping an API● RECOVER: recovering an API● WHITELIST: whitelist-related operations● **AUTHORIZE: authorization
result	Boolean	Indicates the verification result.
cause	String	Cause of the verification failure Enumerated values: <ul style="list-style-type: none">● API_STATUS_ERROR: API status error● API_DEBUG_ERROR: API debugging status error● TYPE_MISMATCH: The app type and instance type do not match.

Parameter	Type	Description
api_status	String	API status (DataArts DataService Shared) Enumerated values: <ul style="list-style-type: none"> • API_STATUS_CREATED: created • API_STATUS_PUBLISH_WAIT_REVIEW: waiting for review • API_STATUS_PUBLISH_REJECT: rejected • API_STATUS_PUBLISHED: published • API_STATUS_WAITING_STOP: waiting to be stopped • API_STATUS_STOPPED: stopped • API_STATUS_RECOVER_WAIT_REVIEW: waiting to be recovered • API_STATUS_WAITING_OFFLINE: waiting to be suspended • API_STATUS_OFFLINE: suspended
api_debug	String	API debugging status (DataArts DataService Shared) Enumerated values: <ul style="list-style-type: none"> • API_DEBUG_WAITING: waiting to be debugged • API_DEBUG_FAILED: debugging failed • API_DEBUG_SUCCESS: debugging successful

Status code: 400

Table 9-88 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query instances for API operations in DataArts DataService Exclusive.

`/v1/0833a5737480d53b2f250010d01a7b88/service/apis/760715eb1bfce0c575abab3be3bd41e6/instances`

Example Responses

Status code: 200

Success

```
{
  "instances": [ {
    "instance_id": "c2e27497562ed193583378e052248003",
    "instance_type": "DLM",
    "name": "cluster_test_001",
    "action": "PUBLISH",
    "result": false,
    "cause": "API_STATUS_ERROR",
    "api_status": "API_STATUS_CREATED",
    "api_debug": "API_DEBUG_WAITING"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListInstanceListSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListInstanceListRequest request = new ListInstanceListRequest();
        request.withApiId("{api_id}");
        try {
            ListInstanceListResponse response = client.listInstanceList(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        }
    }
}
```

```
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListInstanceListRequest()
        request.api_id = "{api_id}"
        response = client.list_instance_list(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"
```

```
auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ListInstanceListRequest{}
request.ApiId = "{api_id}"
response, err := client.ListInstanceList(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.1.13 Querying API Debugging Messages in DLM Exclusive

Function

This API is used to query the API debugging information in different clusters.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/apis/{api_id}/debug-info

Table 9-89 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID

Table 9-90 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-91 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-92 Response body parameters

Parameter	Type	Description
total	Integer	Total number.
publish_messages	Array of ApiPublishDTO objects	Release information list.

Table 9-93 ApiPublishDTO

Parameter	Type	Description
id	String	Release ID.
api_id	String	API ID
instance_id	String	Cluster ID
instance_name	String	Cluster Name

Parameter	Type	Description
api_status	String	<p>API status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_STATUS_CREATED: created • API_STATUS_PUBLISH_WAIT_REVIEW: waiting for review • API_STATUS_PUBLISH_REJECT: rejected • API_STATUS_PUBLISHED: published • API_STATUS_WAITING_STOP: waiting to be stopped • API_STATUS_STOPPED: stopped • API_STATUS_RECOVER_WAIT_REVIEW: waiting to be recovered • API_STATUS_WAITING_OFFLINE: waiting to be suspended • API_STATUS_OFFLINE: suspended • API_STATUS_OFFLINE_WAIT_REVIEW: waiting to be reviewed for suspension
api_debug	String	<p>API debugging status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_DEBUG_WAITING: waiting to be debugged • API_DEBUG_FAILED: debugging failed • API_DEBUG_SUCCESS: debugging successful

Status code: 400

Table 9-94 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Querying API Debugging Messages in DataArts DataService Exclusive

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apis/760715eb1bfce0c575abab3be3bd41e6/debug-info
```

Example Responses

Status code: 200

Success

```
{
  "total" : 1,
  "publish_messages" : [ {
    "id" : "343a6d4c0ad108376ebd060c9c33cc33",
    "api_id" : "47046fe7830c1be77cb0dc23bd86afa5",
    "instance_id" : "c2e27497562ed193583378e052248003",
    "instance_name" : "cluster_test_001",
    "api_status" : "API_STATUS_CREATED",
    "api_debug" : "API_DEBUG_WAITING"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchDebugInfoSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchDebugInfoRequest request = new SearchDebugInfoRequest();
        request.withApiId("{api_id}");
        try {
```

```
        SearchDebugInfoResponse response = client.searchDebugInfo(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchDebugInfoRequest()
        request.api_id = "{api_id}"
        response = client.search_debug_info(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
```

```
variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.SearchDebugInfoRequest{}
request.ApiId = "{api_id}"
response, err := client.SearchDebugInfo(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.1.14 Importing an Excel File Containing APIs

Function

This API is used to import an Excel file that contains APIs.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/import/excel

Table 9-95 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-96 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. Here, the file is imported. The value is multipart/form-data.

Table 9-97 FormData parameters

Parameter	Mandatory	Type	Description
file	Yes	File	Import an Excel file that contains APIs. The file must be smaller than 4 MB.

Response Parameters

Status code: 200

Table 9-98 Response body parameters

Parameter	Type	Description
job_id	String	Returned data information.

Status code: 400

Table 9-99 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Import an Excel file that contains APIs.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/import/excel
```

Example Responses

Status code: 200

The Excel file is imported successfully.

```
{  
  "job_id" : "252041f9838e8e5ea2e0e7317d5bcaf3"  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ImportDataServiceExcelSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running
```

this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ImportDataServiceExcelRequest request = new ImportDataServiceExcelRequest();
try {
    ImportDataServiceExcelResponse response = client.importDataServiceExcel(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ImportDataServiceExcelRequest()
        response = client.import_data_service_excel(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ImportDataServiceExcelRequest{}
    response, err := client.ImportDataServiceExcel(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The Excel file is imported successfully.
400	Bad request

9.1.15 Exporting an Excel File Containing APIs

Function

This API is used to export an Excel file that contains APIs.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/export/excel

Table 9-100 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-101 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Table 9-102 Request body parameters

Parameter	Mandatory	Type	Description
[items]	Yes	Array of strings	API Export ID List

Response Parameters

Status code: 200

Table 9-103 Response body parameters

Parameter	Type	Description
-	File	The Excel file that contains APIs and is smaller than 4 MB is successfully exported.

Status code: 400

Table 9-104 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Export an Excel file that contains APIs.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/export/excel
[ "6b9e682fd6d0ef7c0f674701adb20762", "42505b429b53b42a9b535640617d9b17" ]
```

Example Responses

Status code: 200

The Excel file is successfully exported.

```
"xxx.xlsx"
```

SDK Sample Code

The SDK sample code is as follows.

Java

Export an Excel file that contains APIs.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class ExportDataServiceExcelSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ExportDataServiceExcelRequest request = new ExportDataServiceExcelRequest();
        List<String> listbodyApiExportDTO = new ArrayList<>();
        listbodyApiExportDTO.add("6b9e682fd6d0ef7c0f674701adb20762");
        listbodyApiExportDTO.add("42505b429b53b42a9b535640617d9b17");
        request.withBody(listbodyApiExportDTO);
        try {
            ExportDataServiceExcelResponse response = client.exportDataServiceExcel(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Export an Excel file that contains APIs.

```
# coding: utf-8

import os
```

```
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ExportDataServiceExcelRequest()
        listApiExportDTObody = [
            "6b9e682fd6d0ef7c0f674701adb20762",
            "42505b429b53b42a9b535640617d9b17"
        ]
        request.body = listApiExportDTObody
        response = client.export_data_service_excel(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Export an Excel file that contains APIs.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
```

```
WithRegion(region.ValueOf("<YOUR REGION>")).
WithCredential(auth).
Build()

request := &model.ExportDataServiceExcelRequest{}
var listApiExportDTObody = []string{
    "6b9e682fd6d0ef7c0f674701adb20762",
    "42505b429b53b42a9b535640617d9b17",
}
request.Body = &listApiExportDTObody
response, err := client.ExportDataServiceExcel(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The Excel file is successfully exported.
400	Bad request

9.1.16 Exporting a .zip File Containing All APIs

Function

This API is used to export a .zip file that contains all APIs.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/export/zip

Table 9-105 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-106 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-107 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	API name. This parameter supports fuzzy match.
create_user	No	String	Name of the API creator.
description	No	String	API description,
tags	No	Array of strings	API tag list
table_name	No	String	Name of the database table used by the API.

Parameter	Mandatory	Type	Description
publish_status_type	No	String	API publishing status Enumerated values include: <ul style="list-style-type: none"> ● PUBLISHED: published ● NOT_PUBLISHED: unpublished
api_specific_type_str	No	String	API data obtaining mode Enumerated values: <ul style="list-style-type: none"> ● API_SPECIFIC_TYPE_CONFIGURATION: configuration ● API_SPECIFIC_TYPE_SCRIPT: script ● API_SPECIFIC_TYPE_MYBATIS: MyBatis ● API_SPECIFIC_TYPE_GROOVY: Groovy
start_time	No	String	Time when the API starts to be created.
end_time	No	String	Time when the API creation ends.
authorization_status_type	No	String	Authorization status. Enumerated values: <ul style="list-style-type: none"> ● NO_AUTHORIZATION_REQUIRED: no authorization required ● UNAUTHORIZED: unauthorized ● AUTHORIZED: authorized

Response Parameters

Status code: 200

Table 9-108 Response body parameters

Parameter	Type	Description
-	File	A .zip file that contains multiple Excel files is exported. Each Excel file contains a maximum of 200 APIs.

Status code: 400

Table 9-109 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Export a .zip file that contains all APIs.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/export/zip
{
  "name" : "name",
  "create_user" : "dev",
  "api_specific_type_str" : "API_SPECIFIC_TYPE_CONFIGURATION",
  "start_time" : "2024-02-29T16:00:00.000Z",
  "end_time" : "2024-07-02T15:59:59.998Z",
  "tags" : [ "111", "22", "33" ]
}
```

Example Responses

Status code: 200

The .zip file that contains all APIs is exported.

```
"xxx.zip"
```

SDK Sample Code

The SDK sample code is as follows.

Java

Export a .zip file that contains all APIs.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class ExportDataServiceZipSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    }
}
```



```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ExportDataServiceZipRequest request = new ExportDataServiceZipRequest();
ApiParam body = new ApiParam();
List<String> listbodyTags = new ArrayList<>();
listbodyTags.add("111");
listbodyTags.add("22");
listbodyTags.add("33");
body.withEndTime("2024-07-02T15:59:59.998Z");
body.withStartTime("2024-02-29T16:00:00.000Z");

body.withApiSpecificTypeStr(ApiParam.ApiSpecificTypeEnum.fromValue("API_SPECIFIC_TYPE_CONFIGURA
TION"));
body.withTags(listbodyTags);
body.withCreateUser("dev");
body.withName("name");
request.withBody(body);
try {
    ExportDataServiceZipResponse response = client.exportDataServiceZip(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Export a .zip file that contains all APIs.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)
```

```
client = DataArtsStudioClient.new_builder() \  
  .with_credentials(credentials) \  
  .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
  .build()  
  
try:  
  request = ExportDataServiceZipRequest()  
  listTagsbody = [  
    "111",  
    "22",  
    "33"  
  ]  
  request.body = ApiParam(  
    end_time="2024-07-02T15:59:59.998Z",  
    start_time="2024-02-29T16:00:00.000Z",  
    api_specific_type_str="API_SPECIFIC_TYPE_CONFIGURATION",  
    tags=listTagsbody,  
    create_user="dev",  
    name="name"  
  )  
  response = client.export_data_service_zip(request)  
  print(response)  
except exceptions.ClientRequestException as e:  
  print(e.status_code)  
  print(e.request_id)  
  print(e.error_code)  
  print(e.error_msg)
```

Go

Export a .zip file that contains all APIs.

```
package main  
  
import (  
  "fmt"  
  "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
  dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
  "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
  region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"  
)  
  
func main() {  
  // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
  risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
  variables and decrypted during use to ensure security.  
  // In this example, AK and SK are stored in environment variables for authentication. Before running this  
  example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
  ak := os.Getenv("CLOUD_SDK_AK")  
  sk := os.Getenv("CLOUD_SDK_SK")  
  projectId := "{project_id}"  
  
  auth := basic.NewCredentialsBuilder().  
    WithAk(ak).  
    WithSk(sk).  
    WithProjectId(projectId).  
    Build()  
  
  client := dataartsstudio.NewDataArtsStudioClient(  
    dataartsstudio.DataArtsStudioClientBuilder().  
      WithRegion(region.ValueOf("<YOUR REGION>")).  
      WithCredential(auth).  
      Build())  
  
  request := &model.ExportDataServiceZipRequest{}  
  var listTagsbody = []string{  
    "111",  
    "22",  
    "33",  
  }
```

```
}
endTimeApiParam:= "2024-07-02T15:59:59.998Z"
startTimeApiParam:= "2024-02-29T16:00:00.000Z"
apiSpecificTypeStrApiParam:=
model.GetApiParamApiSpecificTypeEnum().API_SPECIFIC_TYPE_CONFIGURATION
createUserApiParam:= "dev"
nameApiParam:= "name"
request.Body = &model.ApiParam{
    EndTime: &endTimeApiParam,
    StartTime: &startTimeApiParam,
    ApiSpecificTypeStr: &apiSpecificTypeStrApiParam,
    Tags: &listTagsbody,
    CreateUser: &createUserApiParam,
    Name: &nameApiParam,
}
response, err := client.ExportDataServiceZip(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The .zip file that contains all APIs is exported.
400	Bad request

9.1.17 Downloading an Excel Template

Function

This API is used to download an Excel template.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/export/excel-template

Table 9-110 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-111 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Response Parameters

Status code: 200

Table 9-112 Response body parameters

Parameter	Type	Description
-	File	The Excel template is downloaded.

Status code: 400

Table 9-113 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Download an Excel template.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/export/excel-template
```

Example Responses

Status code: 200

The Excel template is downloaded.

```
"xxx.xlsx"
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ExportDataServiceExcelTemplateSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ExportDataServiceExcelTemplateRequest request = new ExportDataServiceExcelTemplateRequest();
```

```
    try {
        ExportDataServiceExcelTemplateResponse response =
client.exportDataServiceExcelTemplate(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ExportDataServiceExcelTemplateRequest()
        response = client.export_data_service_excel_template(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```

```
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ExportDataServiceExcelTemplateRequest{}
response, err := client.ExportDataServiceExcelTemplate(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The Excel template is downloaded.
400	Bad request

9.2 Application Management

9.2.1 Querying the Application List

Function

This API is used to query the application list.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/applys

Table 9-114 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-115 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Query start coordinate, that is, skipping the first X records. The value can only be 0 or an integer multiple of limit. If the requirement is not met, the value is rounded down.
limit	No	Integer	Mximum number of records that can be queried
api_name	No	String	API name. This parameter supports fuzzy match.
query_type	No	Integer	Query type. The options are as follows: 0: received application (to be reviewed); 1: received application (reviewed); 2: sent application (development); 3: sent application (invoking).

Request Parameters

Table 9-116 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-117 Response body parameters

Parameter	Type	Description
total	Integer	Total number of applications that meet the search criteria.
records	Array of RecordForApplyDetail objects	Indicates the returned application list.

Table 9-118 RecordForApplyDetail

Parameter	Type	Description
id	String	Application ID.
api_apply_status	String	Application status Enumerated values: <ul style="list-style-type: none"> • STATUS_TYPE_PENDING_APPROVAL: pending review • STATUS_TYPE_REJECTED: rejected • STATUS_TYPE_PENDING_CHECK: pending check • STATUS_TYPE_PENDING_EXECUTE: pending execution • STATUS_TYPE_SYNCHRONOUS_EXECUTE: synchronously executed • STATUS_TYPE_FORCED_CANCEL: canceled forcibly • STATUS_TYPE_PASSED: passed
api_apply_type	String	Application type Enumerated values: <ul style="list-style-type: none"> • APPLY_TYPE_PUBLISH: publishing an API • APPLY_TYPE_AUTHORIZE: authorizing an API to an app • APPLY_TYPE_APPLY: reviewing an API • APPLY_TYPE_RENEW: renewing an API • APPLY_TYPE_STOP: stopping an API • APPLY_TYPE_RECOVER: recovering an API • APPLY_TYPE_API_CANCEL_AUTHORIZE: canceling API authorization • APPLY_TYPE_APP_CANCEL_AUTHORIZE: canceling app authorization • **APPLY_TYPE_OFFLINE: suspending an API
api_id	String	API ID
api_name	String	API name
api_using_time	Long	Expiry time of using the API,
app_id	String	App ID
app_name	String	App name

Parameter	Type	Description
apply_time	Long	Application time,
approval_time	Long	Authorization time,
approver_name	String	Reviewer name.
comment	String	Review comments.
user_name	String	Applicant name.

Status code: 400

Table 9-119 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query applications.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/applys
```

Example Responses

Status code: 200

The query is successful, and the total number of applications that meet the query conditions is displayed.

```
{
  "total": 1,
  "records": [ {
    "id": "a1c93c3cb17d9747fc41df0377b6fe0f",
    "api_apply_status": "STATUS_TYPE_PASSED",
    "api_apply_type": "APPLY_TYPE_APPLY",
    "api_id": "47046fe7830c1be77cb0dc23bd86afa5",
    "api_name": "api_demo",
    "api_using_time": 1580452617000,
    "app_id": "908489209a320df61607355c57c82882",
    "app_name": "app_demo",
    "apply_time": 1578875421000,
    "approval_time": 1578897421000,
    "approver_name": "Person B",
    "comment": "Passed",
    "user_name": "Tom"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListApplySolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListApplyRequest request = new ListApplyRequest();
        try {
            ListApplyResponse response = client.listApply(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListApplyRequest()
    response = client.list_apply(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListApplyRequest{}
    response, err := client.ListApply(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The query is successful, and the total number of applications that meet the query conditions is displayed.
400	Bad request

9.2.2 Reviewing Applications

Function

Review the application.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/applys

Table 9-120 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-121 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-122 Request body parameters

Parameter	Mandatory	Type	Description
apply_result	No	Boolean	Application result.
apply_ids	No	Array of strings	Application ID list.

Response Parameters

Status code: 400

Table 9-123 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Approve or reject an application.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/applies
```

```
{
  "apply_result" : false,
  "apply_ids" : [ "05b90cb05eb6bd7fcfd834dfc290c3ce" ]
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Approve or reject an application.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class BatchApproveApplySolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        BatchApproveApplyRequest request = new BatchApproveApplyRequest();
        OpenApplyIdsForApproveApply body = new OpenApplyIdsForApproveApply();
        List<String> listbodyApplyIds = new ArrayList<>();
        listbodyApplyIds.add("05b90cb05eb6bd7fcfd834dfc290c3ce");
        body.withApplyIds(listbodyApplyIds);
        body.withApplyResult(false);
        request.withBody(body);
        try {
            BatchApproveApplyResponse response = client.batchApproveApply(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        }
    }
}
```



```
    } catch (ServiceResponseException e) {  
        e.printStackTrace();  
        System.out.println(e.getHttpStatusCode());  
        System.out.println(e.getRequestId());  
        System.out.println(e.getErrorCode());  
        System.out.println(e.getErrorMsg());  
    }  
}  
}
```

Python

Approve or reject an application.

```
# coding: utf-8  
  
import os  
from huaweicloudsdkcore.auth.credentials import BasicCredentials  
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion  
from huaweicloudsdkcore.exceptions import exceptions  
from huaweicloudsdkdataartsstudio.v1 import *  
  
if __name__ == "__main__":  
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    # variables and decrypted during use to ensure security.  
    # In this example, AK and SK are stored in environment variables for authentication. Before running this  
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak = os.environ["CLOUD_SDK_AK"]  
    sk = os.environ["CLOUD_SDK_SK"]  
    projectId = "{project_id}"  
  
    credentials = BasicCredentials(ak, sk, projectId)  
  
    client = DataArtsStudioClient.new_builder() \  
        .with_credentials(credentials) \  
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \  
        .build()  
  
    try:  
        request = BatchApproveApplyRequest()  
        listApplyIdsbody = [  
            "05b90cb05eb6bd7fcfd834dfc290c3ce"  
        ]  
        request.body = OpenApplyIdsForApproveApply(  
            apply_ids=listApplyIdsbody,  
            apply_result=False  
        )  
        response = client.batch_approve_apply(request)  
        print(response)  
    except exceptions.ClientRequestException as e:  
        print(e.status_code)  
        print(e.request_id)  
        print(e.error_code)  
        print(e.error_msg)
```

Go

Approve or reject an application.

```
package main  
  
import (  
    "fmt"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"  
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"  
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"  
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
```

```
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build()  
    )  
  
    request := &model.BatchApproveApplyRequest{  
        var listApplyIdsbody = []string{  
            "05b90cb05eb6bd7fcfd834dfc290c3ce",  
        }  
        applyResultOpenApplyIdsForApproveApply:= false  
        request.Body = &model.OpenApplyIdsForApproveApply{  
            ApplyIds: &listApplyIdsbody,  
            ApplyResult: &applyResultOpenApplyIdsForApproveApply,  
        }  
    }  
    response, err := client.BatchApproveApply(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	The applications are reviewed successfully.
400	Bad request

9.2.3 Obtaining Application Details

Function

This API is used to obtain application details.

This function is only used for displaying application details and not for processing. Therefore, background parameters such as the ID are not displayed.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/applys/{apply_id}

Table 9-124 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
apply_id	Yes	String	Review information ID

Request Parameters

Table 9-125 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-126 Response body parameters

Parameter	Type	Description
id	String	Application ID.
api_apply_status	String	Application status Enumerated values: <ul style="list-style-type: none"> • STATUS_TYPE_PENDING_APPROVAL: pending review • STATUS_TYPE_REJECTED: rejected • STATUS_TYPE_PENDING_CHECK: pending check • STATUS_TYPE_PENDING_EXECUTE: pending execution • STATUS_TYPE_SYNCHRONOUS_EXECUTE: synchronously executed • STATUS_TYPE_FORCED_CANCEL: canceled forcibly • STATUS_TYPE_PASSED: passed

Parameter	Type	Description
api_apply_type	String	Application type Enumerated values: <ul style="list-style-type: none"> ● APPLY_TYPE_PUBLISH: publishing an API ● APPLY_TYPE_AUTHORIZE: authorizing an API to an app ● APPLY_TYPE_APPLY: reviewing an API ● APPLY_TYPE_RENEW: renewing an API ● APPLY_TYPE_STOP: stopping an API ● APPLY_TYPE_RECOVER: recovering an API ● APPLY_TYPE_API_CANCEL_AUTHORIZE: canceling API authorization ● APPLY_TYPE_APP_CANCEL_AUTHORIZE: canceling app authorization ● **APPLY_TYPE_OFFLINE: suspending an API
api_id	String	API ID
api_name	String	API name
api_using_time	Long	Expiry time of using the API,
app_id	String	App ID
app_name	String	App name
apply_time	Long	Application time,
approval_time	Long	Authorization time,
approver_name	String	Reviewer name.
comment	String	Review comments.
user_name	String	Applicant name.

Status code: 400

Table 9-127 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain the review record of the application whose ID is 89374656efeb5e5e8f2cb08ec94cb78a.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/applys/89374656efeb5e5e8f2cb08ec94cb78a
```

Example Responses

Status code: 200

Success

```
{
  "id" : null,
  "api_apply_status" : "STATUS_TYPE_PASSED",
  "api_apply_type" : "APPLY_TYPE_APPLY",
  "api_id" : null,
  "api_name" : "api_demo",
  "api_using_time" : 1580452617000,
  "app_id" : null,
  "app_name" : "app_demo",
  "apply_time" : 1578875421000,
  "approval_time" : null,
  "approver_name" : null,
  "comment" : "Passed",
  "user_name" : "Tom"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowApplyDetailSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);
```

```
DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ShowApplyDetailRequest request = new ShowApplyDetailRequest();
request.withApplyId("{apply_id}");
try {
    ShowApplyDetailResponse response = client.showApplyDetail(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowApplyDetailRequest()
        request.apply_id = "{apply_id}"
        response = client.show_apply_detail(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
```

```
dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowApplyDetailRequest{}
    request.ApplyId = "{apply_id}"
    response, err := client.ShowApplyDetail(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.3 Message Management

9.3.1 Querying the Message List

Function

This API is used to query the notification message list of the review center. Different from applications, notification messages cannot be rejected and can be processed only within a specified time period.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/messages

Table 9-128 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-129 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Query start coordinate, that is, skipping the first X records. The value can only be 0 or an integer multiple of limit. If the requirement is not met, the value is rounded down.
limit	No	Integer	Maximum number of records that can be queried
api_name	No	String	API name

Request Parameters

Table 9-130 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-131 Response body parameters

Parameter	Type	Description
total	Integer	Total number of applications that meet the search criteria.
records	Array of RecordForApplyDetail objects	Indicates the returned application list.

Table 9-132 RecordForApplyDetail

Parameter	Type	Description
id	String	Application ID.
api_apply_status	String	Application status Enumerated values: <ul style="list-style-type: none"> • STATUS_TYPE_PENDING_APPROVAL: pending review • STATUS_TYPE_REJECTED: rejected • STATUS_TYPE_PENDING_CHECK: pending check • STATUS_TYPE_PENDING_EXECUTE: pending execution • STATUS_TYPE_SYNCHRONOUS_EXECUTE: synchronously executed • STATUS_TYPE_FORCED_CANCEL: canceled forcibly • STATUS_TYPE_PASSED: passed
api_apply_type	String	Application type Enumerated values: <ul style="list-style-type: none"> • APPLY_TYPE_PUBLISH: publishing an API • APPLY_TYPE_AUTHORIZE: authorizing an API to an app • APPLY_TYPE_APPLY: reviewing an API • APPLY_TYPE_RENEW: renewing an API • APPLY_TYPE_STOP: stopping an API • APPLY_TYPE_RECOVER: recovering an API • APPLY_TYPE_API_CANCEL_AUTHORIZE: canceling API authorization • APPLY_TYPE_APP_CANCEL_AUTHORIZE: canceling app authorization • **APPLY_TYPE_OFFLINE: suspending an API
api_id	String	API ID
api_name	String	API name
api_using_time	Long	Expiry time of using the API,
app_id	String	App ID
app_name	String	App name

Parameter	Type	Description
apply_time	Long	Application time,
approval_time	Long	Authorization time,
approver_name	String	Reviewer name.
comment	String	Review comments.
user_name	String	Applicant name.

Status code: 400

Table 9-133 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query notifications in the review center.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/messages
```

Example Responses

Status code: 200

The query is successful, and the total number of messages that meet the query conditions is displayed.

```
{
  "total": 1,
  "records": [ {
    "id": "a1c93c3cb17d9747fc41df0377b6fe0f",
    "api_apply_status": "STATUS_TYPE_PASSED",
    "api_apply_type": "APPLY_TYPE_APPLY",
    "api_id": "47046fe7830c1be77cb0dc23bd86afa5",
    "api_name": "api_demo",
    "api_using_time": 1580452617000,
    "app_id": "908489209a320df61607355c57c82882",
    "app_name": "app_demo",
    "apply_time": 1578875421000,
    "approval_time": 1578897421000,
    "approver_name": "Person B",
    "comment": "Passed",
    "user_name": "Tom"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListMessageSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListMessageRequest request = new ListMessageRequest();
        try {
            ListMessageResponse response = client.listMessage(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListMessageRequest()
    response = client.list_message(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListMessageRequest{}
    response, err := client.ListMessage(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The query is successful, and the total number of messages that meet the query conditions is displayed.
400	Bad request

9.3.2 Processing Messages

Function

Confirms received notification messages and selects when to process the messages within a specified time range.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/messages

Table 9-134 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-135 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-136 Request body parameters

Parameter	Mandatory	Type	Description
message_id	No	String	Message ID.
action	No	Integer	Policy action. 0: immediately; 1: periodically.
time	No	String	Expiry time of using the API, This parameter is required only for periodic execution. By default, the current time of the server is three days later.

Response Parameters

Status code: 400

Table 9-137 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Confirm received notifications.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/messages
{
  "message_id" : "c6c1229f3387848b6bfb69eec7004a60",
  "action" : 0,
  "time" : "2022-03-23T10:00:00.000Z"
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Confirm received notifications.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ConfirmMessageSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";
```

```
ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ConfirmMessageRequest request = new ConfirmMessageRequest();
OpenApiParaForCheckMessage body = new OpenApiParaForCheckMessage();
body.withTime("2022-03-23T10:00:00.000Z");
body.withAction(0);
body.withMessageId("c6c1229f3387848b6bfb69eec7004a60");
request.withBody(body);
try {
    ConfirmMessageResponse response = client.confirmMessage(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Confirm received notifications.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ConfirmMessageRequest()
        request.body = OpenApiParaForCheckMessage(
            time="2022-03-23T10:00:00.000Z",
            action=0,
            message_id="c6c1229f3387848b6bfb69eec7004a60"
        )
        response = client.confirm_message(request)
```

```
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Confirm received notifications.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ConfirmMessageRequest{}
    timeOpenApiParaForCheckMessage := "2022-03-23T10:00:00.000Z"
    actionOpenApiParaForCheckMessage := int32(0)
    messageIdOpenApiParaForCheckMessage := "c6c1229f3387848b6bfb69eec7004a60"
    request.Body = &model.OpenApiParaForCheckMessage{
        Time: &timeOpenApiParaForCheckMessage,
        Action: &actionOpenApiParaForCheckMessage,
        MessageId: &messageIdOpenApiParaForCheckMessage,
    }
    response, err := client.ConfirmMessage(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	The messages are successfully processed.
400	Bad request

9.3.3 Obtaining Message Details

Function

This API is used to obtain message details. This function is only used for displaying application details and not for processing. Therefore, background parameters such as the ID are not displayed.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/messages/{message_id}

Table 9-138 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
message_id	Yes	String	Message ID

Request Parameters

Table 9-139 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-140 Response body parameters

Parameter	Type	Description
id	String	Application ID.

Parameter	Type	Description
api_apply_status	String	Application status Enumerated values: <ul style="list-style-type: none"> • STATUS_TYPE_PENDING_APPROVAL: pending review • STATUS_TYPE_REJECTED: rejected • STATUS_TYPE_PENDING_CHECK: pending check • STATUS_TYPE_PENDING_EXECUTE: pending execution • STATUS_TYPE_SYNCHRONOUS_EXECUTE: synchronously executed • STATUS_TYPE_FORCED_CANCEL: canceled forcibly • STATUS_TYPE_PASSED: passed
api_apply_type	String	Application type Enumerated values: <ul style="list-style-type: none"> • APPLY_TYPE_PUBLISH: publishing an API • APPLY_TYPE_AUTHORIZE: authorizing an API to an app • APPLY_TYPE_APPLY: reviewing an API • APPLY_TYPE_RENEW: renewing an API • APPLY_TYPE_STOP: stopping an API • APPLY_TYPE_RECOVER: recovering an API • APPLY_TYPE_API_CANCEL_AUTHORIZE: canceling API authorization • APPLY_TYPE_APP_CANCEL_AUTHORIZE: canceling app authorization • **APPLY_TYPE_OFFLINE: suspending an API
api_id	String	API ID
api_name	String	API name
api_using_time	Long	Expiry time of using the API,
app_id	String	App ID
app_name	String	App name
apply_time	Long	Application time,

Parameter	Type	Description
approval_time	Long	Authorization time,
approver_name	String	Reviewer name.
comment	String	Review comments.
user_name	String	Applicant name.

Status code: 400

Table 9-141 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain the review notification of the application whose ID is 51159105c7838353d2834181d978af50.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/messages/51159105c7838353d2834181d978af50
```

Example Responses

Status code: 200

Success

```
{
  "id" : null,
  "api_apply_status" : "STATUS_TYPE_PASSED",
  "api_apply_type" : "APPLY_TYPE_APPLY",
  "api_id" : null,
  "api_name" : "api_demo",
  "api_using_time" : 1580452617000,
  "app_id" : null,
  "app_name" : "app_demo",
  "apply_time" : 1578875421000,
  "approval_time" : null,
  "approver_name" : null,
  "comment" : "Passed",
  "user_name" : "Tom"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;
```

```
import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowMessageDetailSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowMessageDetailRequest request = new ShowMessageDetailRequest();
        request.withMessageId("{message_id}");
        try {
            ShowMessageDetailResponse response = client.showMessageDetail(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"
```



```
credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ShowMessageDetailRequest()
    request.message_id = "{message_id}"
    response = client.show_message_detail(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowMessageDetailRequest{}
    request.MessageId = "{message_id}"
    response, err := client.ShowMessageDetail(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.4 Authorization Management

9.4.1 Querying Apps Bound to an API

Function

This API is used to query the apps that have been authorized to an API.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/authorize/apis/{api_id}

Table 9-142 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID

Table 9-143 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records that can be queried

Request Parameters

Table 9-144 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-145 Response body parameters

Parameter	Type	Description
total	Integer	Total number of apps that meet the search criteria.
records	Array of RecordForGetAuthApp objects	App list returned this time.

Table 9-146 RecordForGetAuthApp

Parameter	Type	Description
app_id	String	App ID
app_name	String	Application name.
instance_id	String	Cluster instance ID.
instance_name	String	Name of a cluster instance.
api_using_time	Long	Expiry time of using the API,
approval_time	Long	Authorization time,
relationship_type	String	Binding relationship Enumerated values: <ul style="list-style-type: none">● LINK_WAITING_CHECK: waiting to be reviewed● LINKED: bound● **OFFLINE_WAITING_CHECK: waiting to be suspended● RENEW_WAITING_CHECK: waiting to be renewed
static_params	Array of StaticParam objects	List of static parameters.

Table 9-147 StaticParam

Parameter	Type	Description
para_name	String	Name of a static parameter.
para_value	String	Static parameter value.

Status code: 400

Table 9-148 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the apps that have been authorized to an API.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/authorize/apis/
```

Example Responses

Status code: 200

The query is successful, and the list of apps authorized to the API is displayed.

```
{
  "total": 1,
  "records": [ {
    "app_id": "908489209a320df61607355c57c82882",
    "app_name": "app_demo",
    "api_using_time": 1580452617000,
    "approval_time": 1578897421000
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchAuthorizeAppSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
```

```
.withAk(ak)
.withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
SearchAuthorizeAppRequest request = new SearchAuthorizeAppRequest();
request.withApiId("{api_id}");
try {
    SearchAuthorizeAppResponse response = client.searchAuthorizeApp(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchAuthorizeAppRequest()
        request.api_id = "{api_id}"
        response = client.search_authorize_app(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
```

```
"fmt"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.SearchAuthorizeAppRequest{}
    request.ApiId = "{api_id}"
    response, err := client.SearchAuthorizeApp(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The query is successful, and the list of apps authorized to the API is displayed.
400	Bad request

9.4.2 Querying Authorized APIs of an App

Function

This API is used to query authorized APIs of an app.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/authorize/apps/{app_id}

Table 9-149 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
app_id	Yes	String	App ID

Table 9-150 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.
limit	No	Integer	Maximum number of records that can be queried

Request Parameters

Table 9-151 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-152 Response body parameters

Parameter	Type	Description
total	Integer	Total number of APIs bound to the app
records	Array of AppBindApiInfo objects	List of APIs bound to the app

Table 9-153 AppBindApiInfo

Parameter	Type	Description
id	String	API ID.
name	String	API name.
description	String	API description,
approval_time	Long	Review time.
manager	String	Name of the API reviewer.
deadline	Long	Expiry time of using the API,

Parameter	Type	Description
relationship_type	String	Binding relationship Enumerated values: <ul style="list-style-type: none"> • LINK_WAITING_CHECK: waiting to be reviewed • LINKED: bound • **OFFLINE_WAITING_CHECK: waiting to be suspended • RENEW_WAITING_CHECK: waiting to be renewed
static_params	Array of StaticParam objects	List of static parameters.

Table 9-154 StaticParam

Parameter	Type	Description
para_name	String	Name of a static parameter.
para_value	String	Static parameter value.

Status code: 400

Table 9-155 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query authorized APIs of an app.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/authorize/apps/760715eb1bfce0c575abab3be3bd41e6
```

Example Responses

Status code: 200

Success

```
{
  "total": 1,
  "records": [ {
```

```
"id" : "2342936b7862317d0a81bfcfb657f243",
"name" : "testApi",
"description" : "test api",
"approval_time" : 1578897421000,
"manager" : "admin",
"deadline" : 1580452617000
} ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class SearchBindApiSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        SearchBindApiRequest request = new SearchBindApiRequest();
        request.withAppId("{app_id}");
        try {
            SearchBindApiResponse response = client.searchBindApi(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchBindApiRequest()
        request.app_id = "{app_id}"
        response = client.search_bind_api(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
```

```
WithCredential(auth).
Build())

request := &model.SearchBindApiRequest{}
request.AppId = "{app_id}"
response, err := client.SearchBindApi(request)
if err == nil {
    fmt.Printf("%v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5 Service Catalog Management

9.5.1 Obtaining the List of APIs and Catalogs in a Catalog

Function

This API is used to obtain the list of APIs and catalogs in the current catalog. The list is displayed in the data format of the catalog.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/servicecatalogs/{catalog_id}/detail

Table 9-156 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Parameter	Mandatory	Type	Description
catalog_id	Yes	String	Catalog ID

Table 9-157 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Query start coordinate, that is, skipping the first X records.
limit	No	Integer	Maximum number of records that can be queried

Request Parameters

Table 9-158 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-159 Response body parameters

Parameter	Type	Description
total	Integer	Total number of data records that meet the search criteria.
api_catalogs	Array of RecordForGetAll-Catalog objects	App list returned this time.

Table 9-160 RecordForGetAllCatalog

Parameter	Type	Description
catalog_id	String	Catalog ID
pid	String	Parent category ID.
name	String	Name.
description	String	Catalog description.
api_catalog_type	String	Catalog type Enumerated values: <ul style="list-style-type: none">• CATALOG• API
create_time	Long	Creation time.
create_user	String	Creator.
update_time	Long	Update time.
update_user	String	Updater.

Status code: 400

Table 9-161 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain the list of APIs and catalogs in the catalog whose ID is **51159105c7838353d2834181d978af50**.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/51159105c7838353d2834181d978af50/detail
```

Example Responses

Status code: 200

Success

```
{
  "total": 1,
  "api_catalogs": [ {
    "catalog_id": "2847131b4d5a26c5bd4bfd9d8f63f577",
    "pid": "8c9850726a1ee050be2b67e43c688870",
    "name": "demo",
    "description": "this is a demo",
    "api_catalog_type": "CATALOG",
    "create_time": 1578284788000,
    "create_user": "Tom",
    "update_time": 1578284788000,
    "update_user": "Tom"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListAllCatalogListSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
```



```
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
ListAllCatalogListRequest request = new ListAllCatalogListRequest();
request.withCatalogId("{catalog_id}");
try {
    ListAllCatalogListResponse response = client.listAllCatalogList(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAllCatalogListRequest()
        request.catalog_id = "{catalog_id}"
        response = client.list_all_catalog_list(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
```

```
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build()  
    )  
  
    request := &model.ListAllCatalogListRequest{}  
    request.CatalogId = "{catalog_id}"  
    response, err := client.ListAllCatalogList(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5.2 Obtaining the List of APIs in a Catalog

Function

This API is used to obtain the list of APIs in a catalog.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/servicecatalogs/{catalog_id}/apis

Table 9-162 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
catalog_id	Yes	String	Catalog ID

Table 9-163 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Query start coordinate, that is, skipping the first X records.
limit	No	Integer	Maximum number of records that can be queried

Request Parameters

Table 9-164 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-165 Response body parameters

Parameter	Type	Description
total	Integer	Total number of APIs.
apis	Array of ApiOverview objects	API list.

Table 9-166 ApiOverview

Parameter	Type	Description
id	String	API ID.
name	String	API name
group_id	String	API group ID (shared version).
description	String	API description,

Parameter	Type	Description
status	String	<p>API status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_STATUS_CREATED: created • API_STATUS_PUBLISH_WAIT_REVIEW: waiting for review • API_STATUS_PUBLISH_REJECT: rejected • API_STATUS_PUBLISHED: published • API_STATUS_WAITING_STOP: waiting to be stopped • API_STATUS_STOPPED: stopped • API_STATUS_RECOVER_WAIT_REVIEW: waiting to be recovered • API_STATUS_WAITING_OFFLINE: waiting to be suspended • API_STATUS_OFFLINE: suspended • API_STATUS_OFFLINE_WAIT_REVIEW: waiting to be reviewed for suspension
debug_status	String	<p>API debugging status (DataArts DataService Shared)</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • API_DEBUG_WAITING: waiting to be debugged • API_DEBUG_FAILED: debugging failed • API_DEBUG_SUCCESS: debugging successful
publish_messages	Array of ApiPublishDTO objects	Release information list (exclusive edition).
type	String	API type.
manager	String	API reviewer.
create_user	String	API creator.
create_time	Long	API creation time

Parameter	Type	Description
authorization_status	String	Authorization status. Enumerated values: <ul style="list-style-type: none"> • NO_AUTHORIZATION_REQUIRED: no authorization required • UNAUTHORIZED: unauthorized • AUTHORIZED: authorized

Table 9-167 ApiPublishDTO

Parameter	Type	Description
id	String	Release ID.
api_id	String	API ID
instance_id	String	Cluster ID
instance_name	String	Cluster Name
api_status	String	API status (DataArts DataService Shared) Enumerated values: <ul style="list-style-type: none"> • API_STATUS_CREATED: created • API_STATUS_PUBLISH_WAIT_REVIEW: waiting for review • API_STATUS_PUBLISH_REJECT: rejected • API_STATUS_PUBLISHED: published • API_STATUS_WAITING_STOP: waiting to be stopped • API_STATUS_STOPPED: stopped • API_STATUS_RECOVER_WAIT_REVIEW: waiting to be recovered • API_STATUS_WAITING_OFFLINE: waiting to be suspended • API_STATUS_OFFLINE: suspended • API_STATUS_OFFLINE_WAIT_REVIEW: waiting to be reviewed for suspension

Parameter	Type	Description
api_debug	String	API debugging status (DataArts DataService Shared) Enumerated values: <ul style="list-style-type: none"> • API_DEBUG_WAITING: waiting to be debugged • API_DEBUG_FAILED: debugging failed • API_DEBUG_SUCCESS: debugging successful

Status code: 400

Table 9-168 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain the list of APIs in the catalog whose ID is 51159105c7838353d2834181d978af50.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/51159105c7838353d2834181d978af50/apis
```

Example Responses

Status code: 200

Success

```
{
  "total" : 1,
  "apis" : [ {
    "id" : "fd0beac79418d65e3b3ed24a6e33b24b",
    "name" : "testApi",
    "create_time" : 1579162215000,
    "status" : "API_STATUS_CREATED",
    "manager" : "admin",
    "type" : null,
    "debug_status" : "API_DEBUG_WAITING"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListApiCatalogListSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListApiCatalogListRequest request = new ListApiCatalogListRequest();
        request.withCatalogId("{catalog_id}");
        try {
            ListApiCatalogListResponse response = client.listApiCatalogList(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
```



```
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListApiCatalogListRequest()
    request.catalog_id = "{catalog_id}"
    response = client.list_api_catalog_list(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListApiCatalogListRequest{}
    request.CatalogId = "{catalog_id}"
    response, err := client.ListApiCatalogList(request)
    if err == nil {
        fmt.Printf("%v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5.3 Obtaining the List of Sub-Catalogs in a Catalog

Function

This API is used to obtain the directory list in the current directory. (Full data is not displayed on multiple pages. It is recommended that this API be used only in scenarios where pagination cannot be performed, such as directory tree generation.)

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/servicecatalogs/{catalog_id}/catalogs

Table 9-169 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
catalog_id	Yes	String	Catalog ID

Table 9-170 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records that can be queried

Parameter	Mandatory	Type	Description
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-171 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-172 Response body parameters

Parameter	Type	Description
total	Integer	Total number of data records that meet the search criteria.
catalogs	Array of RecordForGetAll-Catalog objects	App list returned this time.

Table 9-173 RecordForGetAllCatalog

Parameter	Type	Description
catalog_id	String	Catalog ID
pid	String	Parent category ID.
name	String	Name.
description	String	Catalog description.
api_catalog_type	String	Catalog type Enumerated values: <ul style="list-style-type: none">• CATALOG• API
create_time	Long	Creation time.
create_user	String	Creator.
update_time	Long	Update time.
update_user	String	Updater.

Status code: 400

Table 9-174 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain the list of catalogs in the catalog whose ID is 51159105c7838353d2834181d978af50.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/51159105c7838353d2834181d978af50/catalogs
```

Example Responses

Status code: 200

Success

```
{
  "total": 1,
  "catalogs": [ {
    "catalog_id": "2847131b4d5a26c5bd4bfd9d8f63f577",
    "pid": "8c9850726a1ee050be2b67e43c688870",
    "name": "demo",
    "description": "this is a demo",
    "api_catalog_type": "CATALOG",
    "create_time": 1578284788000,
    "create_user": "Tom",
    "update_time": 1578284788000,
    "update_user": "Tom"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListCatalogListSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListCatalogListRequest request = new ListCatalogListRequest();
        request.withCatalogId("{catalog_id}");
        try {
            ListCatalogListResponse response = client.listCatalogList(request);
        }
    }
}
```

```
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListCatalogListRequest()
        request.catalog_id = "{catalog_id}"
        response = client.list_catalog_list(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
```

```
// In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ListCatalogListRequest{}
request.CatalogId = "{catalog_id}"
response, err := client.ListCatalogList(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5.4 Updating a Service Catalog

Function

This API is used to update a service catalog.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1/{project_id}/service/servicecatalogs/{catalog_id}

Table 9-175 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
catalog_id	Yes	String	Catalog ID

Request Parameters

Table 9-176 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-177 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	Name.
description	No	String	Description.

Response Parameters

Status code: 200

Table 9-178 Response body parameters

Parameter	Type	Description
catalog_id	String	Catalog ID
name	String	Name.
description	String	Description.
create_time	Long	Time when the bandwidth was specified.
create_user	String	Creator.
update_time	Long	Update time.
update_user	String	Updater

Status code: 400

Table 9-179 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Update the catalog whose ID is 51159105c7838353d2834181d978af50.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/51159105c7838353d2834181d978af50
{
  "name" : "demo",
  "description" : "this is a demo"
}
```

Example Responses

Status code: 200

Success

```
{
  "catalog_id" : "2847131b4d5a26c5bd4bfd9d8f63f577",
  "name" : "demo",
  "description" : "this is a demo",
  "create_time" : 1578284788000,
  "create_user" : "Tom",
  "update_time" : 1578284788000,
  "update_user" : "Tom"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update the catalog whose ID is 51159105c7838353d2834181d978af50.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class UpdateCatalogSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateCatalogRequest request = new UpdateCatalogRequest();
        request.withCatalogId("{catalog_id}");
        ApiCatalogUpdateParaDTO body = new ApiCatalogUpdateParaDTO();
        body.withDescription("this is a demo");
        body.withName("demo");
        request.withBody(body);
        try {
            UpdateCatalogResponse response = client.updateCatalog(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
```

```
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

Update the catalog whose ID is 51159105c7838353d2834181d978af50.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateCatalogRequest()
        request.catalog_id = "{catalog_id}"
        request.body = ApiCatalogUpdateParaDTO(
            description="this is a demo",
            name="demo"
        )
        response = client.update_catalog(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Update the catalog whose ID is 51159105c7838353d2834181d978af50.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
```

```
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateCatalogRequest{
        request.CatalogId = "{catalog_id}"
        descriptionApiCatalogUpdateParaDto:= "this is a demo"
        nameApiCatalogUpdateParaDto:= "demo"
        request.Body = &model.ApiCatalogUpdateParaDto{
            Description: &descriptionApiCatalogUpdateParaDto,
            Name: &nameApiCatalogUpdateParaDto,
        }
    }
    response, err := client.UpdateCatalog(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5.5 Query the service catalog

Function

This API is used to query a service catalog.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/servicecatalogs/{catalog_id}

Table 9-180 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
catalog_id	Yes	String	Catalog ID

Request Parameters

Table 9-181 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-182 Response body parameters

Parameter	Type	Description
catalog_id	String	Catalog ID
name	String	Name.
path	String	Path.
catalog_total	Integer	Number of subdirectories.
api_total	Integer	Number of APIs
description	String	Description.
create_time	Long	Time when the bandwidth was specified.
create_user	String	Creator.
update_time	Long	Update time.
update_user	String	Updater.

Status code: 400

Table 9-183 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query a catalog whose ID is 51159105c7838353d2834181d978af50.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/51159105c7838353d2834181d978af50
```

Example Responses

Status code: 200

Success

```
{
  "catalog_id" : "2847131b4d5a26c5bd4bfd9d8f63f577",
  "name" : "demo",
  "path" : "/demo1/demo2/demo",
  "catalog_total" : 1,
  "api_total" : 1,
  "description" : "this is a demo",
  "create_time" : 1578284788000,
  "create_user" : "Tom",
  "update_time" : 1578284788000,
  "update_user" : "Tom"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowCatalogDetailSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowCatalogDetailRequest request = new ShowCatalogDetailRequest();
        request.withCatalogId("{catalog_id}");
```

```
try {
    ShowCatalogDetailResponse response = client.showCatalogDetail(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowCatalogDetailRequest()
        request.catalog_id = "{catalog_id}"
        response = client.show_catalog_detail(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```



```
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ShowCatalogDetailRequest{}
request.CatalogId = "{catalog_id}"
response, err := client.ShowCatalogDetail(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5.6 Creating a Service Catalog

Function

This API is used to create a service catalog. The ID of the root catalog is 0.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/servicecatalogs

Table 9-184 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-185 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-186 Request body parameters

Parameter	Mandatory	Type	Description
pid	No	String	Parent category ID.
name	No	String	Name.
description	No	String	Description.

Response Parameters

Status code: 200

Table 9-187 Response body parameters

Parameter	Type	Description
catalog_id	String	Catalog ID
name	String	Name.
description	String	Description.
create_time	Long	Time when the bandwidth was specified.
create_user	String	Creator.
update_time	Long	Update time.
update_user	String	Updater

Status code: 400

Table 9-188 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create a service catalog.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs
{
  "pid" : "0",
  "name" : "demo111",
```

```
"description" : "Create a catalog comment."  
}
```

Example Responses

Status code: 200

Success

```
{  
  "catalog_id" : "2847131b4d5a26c5bd4bfd9d8f63f577",  
  "name" : "demo",  
  "description" : "this is a demo",  
  "create_time" : 1578284788000,  
  "create_user" : "Tom",  
  "update_time" : 1578284788000,  
  "update_user" : "Tom"  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create a service catalog.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class CreateServiceCatalogSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        CreateServiceCatalogRequest request = new CreateServiceCatalogRequest();  
        ApiCatalogCreateParaDTO body = new ApiCatalogCreateParaDTO();  
        body.withDescription("Create a catalog comment.");  
        body.withName("demo111");  
        body.withPid("0");  
        request.withBody(body);  
    }  
}
```

```
try {
    CreateServiceCatalogResponse response = client.createServiceCatalog(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Create a service catalog.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateServiceCatalogRequest()
        request.body = ApiCatalogCreateParaDTO(
            description="Create a catalog comment.",
            name="demo111",
            pid="0"
        )
        response = client.create_service_catalog(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Create a service catalog.

```
package main

import (
```

```
"fmt"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateServiceCatalogRequest{
        descriptionApiCatalogCreateParaDto:= "Create a catalog comment."
        nameApiCatalogCreateParaDto:= "demo111"
        pidApiCatalogCreateParaDto:= "0"
        request.Body = &model.ApiCatalogCreateParaDto{
            Description: &descriptionApiCatalogCreateParaDto,
            Name: &nameApiCatalogCreateParaDto,
            Pid: &pidApiCatalogCreateParaDto,
        }
    }
    response, err := client.CreateServiceCatalog(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5.7 Deleting Directories in Batches

Function

This API is used to delete service catalogs in batches.

When a service catalog is deleted, all its sub-catalogs are deleted. Catalogs with APIs cannot be deleted.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/servicecatalogs/batch-delete

Table 9-189 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-190 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-191 Request body parameters

Parameter	Mandatory	Type	Description
ids	No	Array of strings	Catalog ID

Response Parameters

Status code: 400

Table 9-192 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete service catalogs.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/batch-delete
{
  "ids" : [ "a8523d5a41e7c6c1b38c2bc0984f097e" ]
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Delete service catalogs.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

import java.util.List;
import java.util.ArrayList;

public class DeleteServiceCatalogSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteServiceCatalogRequest request = new DeleteServiceCatalogRequest();
        ApiCatalogDeleteParaDTO body = new ApiCatalogDeleteParaDTO();
        List<String> listbodyIds = new ArrayList<>();
        listbodyIds.add("a8523d5a41e7c6c1b38c2bc0984f097e");
        body.withIds(listbodyIds);
        request.withBody(body);
        try {
            DeleteServiceCatalogResponse response = client.deleteServiceCatalog(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Delete service catalogs.

```
# coding: utf-8
```

```
import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteServiceCatalogRequest()
        listIdsbody = [
            "a8523d5a41e7c6c1b38c2bc0984f097e"
        ]
        request.body = ApiCatalogDeleteParaDTO(
            ids=listIdsbody
        )
        response = client.delete_service_catalog(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Delete service catalogs.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()
```

```
client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.DeleteServiceCatalogRequest{}
var listIdsbody = []string{
    "a8523d5a41e7c6c1b38c2bc0984f097e",
}
request.Body = &model.ApiCatalogDeleteParaDto{
    Ids: &listIdsbody,
}
response, err := client.DeleteServiceCatalog(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	Success
400	Bad request

9.5.8 Moving a Catalog to Another Catalog

Function

Move the current directory to a new directory.

When the catalog is moved, all its sub-catalogs are also moved.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/servicecatalogs/{catalog_id}/move

Table 9-193 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
catalog_id	Yes	String	Catalog ID

Request Parameters

Table 9-194 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-195 Request body parameters

Parameter	Mandatory	Type	Description
target_pid	No	String	Parent catalog ID

Response Parameters

Status code: 400

Table 9-196 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Move a catalog to another catalog.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/51159105c7838353d2834181d978af50/  
move  
  
{  
  "target_pid" : "47d0c3723fd4bd3fdcffbcf4ec40c693"  
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Move a catalog to another catalog.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class MigrateCatalogSolution {  
    public static void main(String[] args) {
```

```
// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
MigrateCatalogRequest request = new MigrateCatalogRequest();
request.withCatalogId("{catalog_id}");
CatalogMoveParaDTO body = new CatalogMoveParaDTO();
body.withTargetPid("47d0c3723fd4bd3fdcffbcf4ec40c693");
request.withBody(body);
try {
    MigrateCatalogResponse response = client.migrateCatalog(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Move a catalog to another catalog.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()
```

```
try:
    request = MigrateCatalogRequest()
    request.catalog_id = "{catalog_id}"
    request.body = CatalogMoveParaDTO(
        target_pid="47d0c3723fd4bd3fdcffbcf4ec40c693"
    )
    response = client.migrate_catalog(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Move a catalog to another catalog.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.MigrateCatalogRequest{}
    request.CatalogId = "{catalog_id}"
    targetPidCatalogMoveParaDto := "47d0c3723fd4bd3fdcffbcf4ec40c693"
    request.Body = &model.CatalogMoveParaDto{
        TargetPid: &targetPidCatalogMoveParaDto,
    }
    response, err := client.MigrateCatalog(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	Success
400	Bad request

9.5.9 Moving APIs to Another Catalog

Function

This API is used to move APIs to another catalog.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/servicecatalogs/apis/batch-move

Table 9-197 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-198 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-199 Request body parameters

Parameter	Mandatory	Type	Description
target_pid	No	String	Parent catalog ID
apis	No	Array of strings	Directory to be moved.

Response Parameters

Status code: 400

Table 9-200 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Move APIs to another catalog.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/apis/batch-move
```

```
{
  "target_pid" : "569e65bf4318b947ce5246e9d03c47e7",
  "apis" : [ "43ad1364493d7c04c8e09ae98d877527" ]
}
```

Example Responses

None

Status Codes

Status Code	Description
204	Success
400	Bad request

9.5.10 Obtaining the ID of a Catalog Through Its Path

Function

This API is used to obtain the ID of catalog through its path.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/servicecatalogs/ids

Table 9-201 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-202 Query Parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Path
limit	No	Integer	Maximum number of records that can be queried

Parameter	Mandatory	Type	Description
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-203 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-204 Response body parameters

Parameter	Type	Description
catalog_id	String	Catalog ID

Status code: 400**Table 9-205** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain the ID of catalog through its path.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/ids
```

Example Responses

Status code: 200

Success

```
{  
  "catalog_id" : "2847131b4d5a26c5bd4bfd9d8f63f577"  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class SearchIdByPathSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running
```

this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment

```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
SearchIdByPathRequest request = new SearchIdByPathRequest();
try {
    SearchIdByPathResponse response = client.searchIdByPath(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = SearchIdByPathRequest()
        response = client.search_id_by_path(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.SearchIdByPathRequest{}
    response, err := client.SearchIdByPath(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5.11 Obtaining the Path of a Catalog Through Its ID

Function

This API is used to obtain the path of a catalog through its ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/servicecatalogs/{catalog_id}/paths

Table 9-206 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
catalog_id	Yes	String	Catalog ID

Table 9-207 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-208 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200**Table 9-209** Response body parameters

Parameter	Type	Description
path	String	Path.

Status code: 400

Table 9-210 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain the path of a catalog through its ID.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/51159105c7838353d2834181d978af50/paths
```

Example Responses

Status code: 200

Success

```
{  
  "path" : "/demo1/demo2/demo"  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowPathByIdSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)
```

```
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
ShowPathByIdRequest request = new ShowPathByIdRequest();
request.withCatalogId("{catalog_id}");
try {
    ShowPathByIdResponse response = client.showPathById(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowPathByIdRequest()
        request.catalog_id = "{catalog_id}"
        response = client.show_path_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
```

```
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build()  
    )  
  
    request := &model.ShowPathByIdRequest{}  
    request.CatalogId = "{catalog_id}"  
    response, err := client.ShowPathById(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5.12 Obtaining the Paths to a Catalog Through Its ID

Function

Obtains a path object based on the directory ID.

Obtains the path information of each layer from the root directory to the current directory based on the directory ID.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/servicecatalogs/{catalog_id}/layerpaths

Table 9-211 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
catalog_id	Yes	String	Catalog ID

Table 9-212 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-213 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-214 Response body parameters

Parameter	Type	Description
paths	Array of LayerPath objects	Path object.

Table 9-215 LayerPath

Parameter	Type	Description
catalog_id	String	Catalog ID
name	String	Path name.
order	Integer	Path level.

Status code: 400

Table 9-216 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain the paths to a catalog through its ID.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/servicecatalogs/51159105c7838353d2834181d978af50/layerpaths
```

Example Responses

Status code: 200

Success

```
{
  "paths" : [ {
    "catalog_id" : "2847131b4d5a26c5bd4bfd9d8f63f577",
    "name" : "/demo",
    "order" : 3
  }, {
    "catalog_id" : "3847131b4d565657g435536568f635342",
    "name" : "/demo2",
    "order" : 2
  }, {
    "catalog_id" : "450aa37131b4d5a26c5bcfd9d8f63j653",
    "name" : "/demo1",
    "order" : 1
  }, {
    "catalog_id" : "0",
    "name" : "/",
    "order" : 0
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowPathObjectByIdSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
```

```
        .withSk(sk);

    DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
        .withCredential(auth)
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
    ShowPathObjectByldRequest request = new ShowPathObjectByldRequest();
    request.withCatalogId("{catalog_id}");
    try {
        ShowPathObjectByldResponse response = client.showPathObjectByld(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowPathObjectByldRequest()
        request.catalog_id = "{catalog_id}"
        response = client.show_path_object_by_id(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
```

```
"github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowPathObjectByIdRequest{}
    request.CatalogId = "{catalog_id}"
    response, err := client.ShowPathObjectById(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.5.13 Querying the Service Catalog API List

Function

This API is used to query the service catalog API list.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/market

Table 9-217 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-218 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-219 Request body parameters

Parameter	Mandatory	Type	Description
auth_type	No	String	Authentication mode Enumerated values: <ul style="list-style-type: none"> ● APP: app secret ● IAM: IAM token ● NONE: authentication disabled
visibility	No	String	API visibility Enumerated values: <ul style="list-style-type: none"> ● WORKSPACE: visible to a workspace ● PROJECT: visible to a project ● DOMAIN: visible to a tenant ● SPECIFIC_PROJECT: visible to a specified project
market_sort_type	No	String	Sorting type Enumerated values: <ul style="list-style-type: none"> ● updateTime: update time ● createTime: creation time
asc_or_desc	No	String	Sorting order Enumerated values: <ul style="list-style-type: none"> ● asc: ascending order ● desc: descending order
offset	No	Integer	Start coordinate of the query.

Parameter	Mandatory	Type	Description
limit	No	Integer	Indicates the number of queried records.
is_owner	No	Boolean	Indicates whether to display the owner.
is_authorized	No	Boolean	Indicates whether to display authorized users.
is_update_recently	No	Boolean	Indicates whether to display the latest updates.
is_release_recently	No	Boolean	Indicates whether to display the latest release.
is_hot_recently	No	Boolean	Indicates whether to display the hot-selling status.
success_and_failure_rate	No	Boolean	Indicates whether to display the success rate and failure rate in the last seven days.

Response Parameters

Status code: 200

Table 9-220 Response body parameters

Parameter	Type	Description
total	Integer	Total number of APIs.
apis	Array of AdvancedMallApiDTO objects	API list.

Table 9-221 AdvancedMallApiDTO

Parameter	Type	Description
id	String	API ID.
name	String	API name
auth_type	String	Authentication mode Enumerated values: <ul style="list-style-type: none"> • APP: app secret • IAM: IAM token • NONE: authentication disabled

Parameter	Type	Description
application_num	Integer	Number of authorized applications.
call_num	Integer	Number of invoked requests.
user_name	String	Creator.
create_time	Long	Time when the bandwidth was specified.
update_time	Long	Update time.
is_owner	Boolean	Indicates whether the API is in the current space.
is_authorized	Boolean	Indicates whether the user is authorized.
is_update_recently	Boolean	Indicates whether the API has been updated in the last three days.
is_release_recently	Boolean	Indicates whether a new product is launched (APIs released within three days).
is_hot_recently	Boolean	Indicates whether the product is a hot-selling product. (Users in other space have applied for the API within three days.)
success_rate	String	Success rate of API calls within seven days.
failure_rate	String	Invoking failure rate within seven days.

Status code: 400

Table 9-222 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the service catalog API list.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/market
```

```
{  
  "is_authorized" : true,  
  "is_hot_recently" : true,
```

```
"is_owner" : true,  
"is_release_recently" : true,  
"is_update_recently" : true,  
"limit" : 12,  
"offset" : 0,  
"success_and_failure_rate" : true,  
"visibility" : "SPECIFIC_PROJECT"  
}
```

Example Responses

Status code: 200

Success

```
{  
  "apis" : [ {  
    "application_num" : 0,  
    "auth_type" : "NONE",  
    "call_num" : 1,  
    "create_time" : 1704420144000,  
    "failure_rate" : null,  
    "id" : "bb110fcffb5f319eb08939e877566d6a",  
    "is_authorized" : null,  
    "is_hot_recently" : null,  
    "is_owner" : null,  
    "is_release_recently" : null,  
    "is_update_recently" : null,  
    "name" : "bug_dws",  
    "success_rate" : null,  
    "update_time" : 1704532548000,  
    "user_name" : "user"  
  } ],  
  "total" : 1  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Query the service catalog API list.

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ListDataServiceMarketApisSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
    }  
}
```

```
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();

ListDataServiceMarketApisRequest request = new ListDataServiceMarketApisRequest();
MallParaDTO body = new MallParaDTO();
body.withSuccessAndFailureRate(true);
body.withIsHotRecently(true);
body.withIsReleaseRecently(true);
body.withIsUpdateRecently(true);
body.withIsAuthorized(true);
body.withIsOwner(true);
body.withLimit(12);
body.withOffset(0);
body.withVisibility(MallParaDTO.VisibilityEnum.fromValue("SPECIFIC_PROJECT"));
request.withBody(body);
try {
    ListDataServiceMarketApisResponse response = client.listDataServiceMarketApis(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Query the service catalog API list.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()
```

```
try:
    request = ListDataServiceMarketApisRequest()
    request.body = MallParaDTO(
        success_and_failure_rate=True,
        is_hot_recently=True,
        is_release_recently=True,
        is_update_recently=True,
        is_authorized=True,
        is_owner=True,
        limit=12,
        offset=0,
        visibility="SPECIFIC_PROJECT"
    )
    response = client.list_data_service_market_apis(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

Query the service catalog API list.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListDataServiceMarketApisRequest{
        successAndFailureRateMallParaDto:= true
        isHotRecentlyMallParaDto:= true
        isReleaseRecentlyMallParaDto:= true
        isUpdateRecentlyMallParaDto:= true
        isAuthorizedMallParaDto:= true
        isOwnerMallParaDto:= true
        limitMallParaDto:= int32(12)
        offsetMallParaDto:= int32(0)
        visibilityMallParaDto:= model.GetMallParaDtoVisibilityEnum().SPECIFIC_PROJECT
        request.Body = &model.MallParaDto{
            SuccessAndFailureRate: &successAndFailureRateMallParaDto,
```

```
IsHotRecently: &isHotRecentlyMallParaDto,  
IsReleaseRecently: &isReleaseRecentlyMallParaDto,  
IsUpdateRecently: &isUpdateRecentlyMallParaDto,  
IsAuthorized: &isAuthorizedMallParaDto,  
IsOwner: &isOwnerMallParaDto,  
Limit: &limitMallParaDto,  
Offset: &offsetMallParaDto,  
Visibility: &visibilityMallParaDto,  
}  
response, err := client.ListDataServiceMarketApis(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.6 Gateway Management

9.6.1 Obtaining a Gateway Instance (Exclusive Edition)

Function

This API is used to obtain a gateway instance (exclusive edition).

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/apigw/instances

Table 9-223 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-224 Query Parameters

Parameter	Mandatory	Type	Description
apig_type	Yes	String	Gateway type Enumerated values include: <ul style="list-style-type: none">• APIGW: APIGW gateway• ROMA_APIC: ROMA gateway
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-225 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-226 Response body parameters

Parameter	Type	Description
gateway_instances	Array of ApigInstanceDTO objects	Gateway instance.

Table 9-227 ApigInstanceDTO

Parameter	Type	Description
instance_id	String	Gateway instance ID.
instance_name	String	Name of a gateway instance.

Status code: 400

Table 9-228 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain a gateway instance in DataArts DataService Exclusive.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apigw/instances
```

Example Responses

Status code: 200

Success

```
{
  "gateway_instances" : [ {
    "instance_id" : "0ca3311f5dc941b7b3d1950d1682b646",
    "instance_name" : "apigw_test_001"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListApicInstancesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);
```

```
DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListApicInstancesRequest request = new ListApicInstancesRequest();
try {
    ListApicInstancesResponse response = client.listApicInstances(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListApicInstancesRequest()
        response = client.list_apic_instances(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)
```

```
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build())  
  
    request := &model.ListApicInstancesRequest{}  
    response, err := client.ListApicInstances(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad Request:

9.6.2 Obtaining a Gateway Group

Function

This API is used to obtain gateway groups.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/apigw/instances/{apig_instance_id}/groups

Table 9-229 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
apig_instance_id	Yes	String	Specifies the gateway instance ID. For the shared version, the value is fixed at APIG.

Table 9-230 Query Parameters

Parameter	Mandatory	Type	Description
apig_type	Yes	String	Gateway type Enumerated values include: <ul style="list-style-type: none">• APIG: APIG gateway• APIGW: APIGW gateway• ROMA_APIC: ROMA gateway
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-231 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200**Table 9-232** Response body parameters

Parameter	Type	Description
gateway_groups	Array of ApigGroupDTO objects	Indicates the gateway group list.

Table 9-233 ApigGroupDTO

Parameter	Type	Description
group_id	String	Group ID.
group_name	String	Group name.

Status code: 400**Table 9-234** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Obtain gateway groups.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apigw/instances/51159105c7838353d2834181d978af50/groups
```

Example Responses

Status code: 200

Success

```
{  
  "gateway_groups": [ {  
    "group_id": "ef5a4d1dd3064702a943c2de303348e2",  
    "group_name": "DEFAULT"  
  } ]  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ListApicGroupsSolution {
```



```
public static void main(String[] args) {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    // environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running
    // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    String ak = System.getenv("CLOUD_SDK_AK");
    String sk = System.getenv("CLOUD_SDK_SK");
    String projectId = "{project_id}";

    ICredential auth = new BasicCredentials()
        .withProjectId(projectId)
        .withAk(ak)
        .withSk(sk);

    DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
        .withCredential(auth)
        .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
        .build();
    ListApicGroupsRequest request = new ListApicGroupsRequest();
    request.withApigInstanceId("{apig_instance_id}");
    try {
        ListApicGroupsResponse response = client.listApicGroups(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListApicGroupsRequest()
        request.apig_instance_id = "{apig_instance_id}"
```

```
response = client.list_apic_groups(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListApicGroupsRequest{}
    request.ApigInstanceId = "{apig_instance_id}"
    response, err := client.ListApicGroups(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.7 App Management

9.7.1 Creating an App

Function

This API is used to create an app or an IAM app.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v1/{project_id}/service/apps

Table 9-235 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Request Parameters

Table 9-236 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .

Parameter	Mandatory	Type	Description
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-237 Request body parameters

Parameter	Mandatory	Type	Description
app_type	No	String	App type The following values are available: <ul style="list-style-type: none"> • APP • IAM • APIG (discarded) • APIGW (discarded) • DLM (discarded) • ROMA_APIC (discarded)
name	No	String	Application name.
description	No	String	Application description.
apig_type	No	String	Gateway type Enumerated values: <ul style="list-style-type: none"> • APIG: APIG gateway • APIGW: APIGW gateway • ROMA_APIC: ROMA gateway
apig_instance_id	No	String	Gateway instance ID.

Response Parameters

Status code: 200

Table 9-238 Response body parameters

Parameter	Type	Description
id	String	App ID
name	String	Application name.
description	String	Application description.
app_key	String	Application key.
app_secret	String	Application secret.
register_time	Long	Creation time.
update_time	Long	Update time.
create_user	String	Creator.
update_user	String	Updater.
app_type	String	App type. Enumerated values: <ul style="list-style-type: none">• APP: app• IAM: IAM• APIG: APIG (discarded)• APIGW: APIGW (deprecated)• DLM: DataArts DataService (deprecated)• ROMA_APIC: ROMA (deprecated)

Status code: 400

Table 9-239 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create an app.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apps
```

```
{
  "app_type" : "APP",
  "name" : "app_test_001",
  "description" : "This is the app's description."
}
```

Example Responses

Status code: 200

Success

```
{
  "id" : "908489209a320df61607355c57c82882",
  "name" : "app_test_001",
  "description" : "This is the app's description.",
  "app_key" : "fbbf9462bb434cb4a13ee7d2bb70c418",
  "app_secret" : "c1245f01937442e098ffa6ff134cb3dc",
  "register_time" : 1578284788000,
  "update_time" : 1578284788000,
  "create_user" : "create_user",
  "update_user" : "update_user",
  "app_type" : "APP"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create an app.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class CreateAppSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
    }
}
```

```
CreateAppRequest request = new CreateAppRequest();
AppRequestDTO body = new AppRequestDTO();
body.withDescription("This is the app's description.");
body.withName("app_test_001");
body.withAppType(AppRequestDTO.AppTypeEnum.fromValue("APP"));
request.withBody(body);
try {
    CreateAppResponse response = client.createApp(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

Create an app.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateAppRequest()
        request.body = AppRequestDTO(
            description="This is the app's description.",
            name="app_test_001",
            app_type="APP"
        )
        response = client.create_app(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Create an app.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAppRequest{}
    descriptionAppRequestDto := "This is the app's description."
    nameAppRequestDto := "app_test_001"
    appTypeAppRequestDto := model.GetAppRequestDtoAppTypeEnum().APP
    request.Body = &model.AppRequestDto{
        Description: &descriptionAppRequestDto,
        Name: &nameAppRequestDto,
        AppType: &appTypeAppRequestDto,
    }
    response, err := client.CreateApp(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success

Status Code	Description
400	Bad request

9.7.2 Querying the App List

Function

Query an application list.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/apps

Table 9-240 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-241 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.
name	No	String	App name. This parameter supports fuzzy match.

Parameter	Mandatory	Type	Description
app_type	No	String	App type The following values are available: <ul style="list-style-type: none"> • APP • IAM • APIG (discarded) • APIGW (discarded) • DLM (discarded) • ROMA_APIC (discarded)

Request Parameters

Table 9-242 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-243 Response body parameters

Parameter	Type	Description
total	Integer	Total number.
apps	Array of AppReturnDTO objects	Application list

Table 9-244 AppReturnDTO

Parameter	Type	Description
id	String	App ID
name	String	Application name.
description	String	Application description.
app_key	String	Application key.
app_secret	String	Application secret.
register_time	Long	Creation time.
update_time	Long	Update time.
create_user	String	Creator.
update_user	String	Updater.
app_type	String	App type. Enumerated values: <ul style="list-style-type: none"> • APP: app • IAM: IAM • APIG: APIG (discarded) • APIGW: APIGW (deprecated) • DLM: DataArts DataService (deprecated) • ROMA_APIC: ROMA (deprecated)

Status code: 400

Table 9-245 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query applications.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apps
```

Example Responses

Status code: 200

Success

```
{
  "total": 1,
  "apps": [ {
    "id": "908489209a320df61607355c57c82882",
    "name": "app_test_001",
    "description": "This is the app's description.",
    "app_key": "fbbf9462bb434cb4a13ee7d2bb70c418",
    "app_secret": "c1245f01937442e098ffa6ff134cb3dc",
    "register_time": 1578284788000,
    "update_time": 1578284788000,
    "create_user": "create_user",
    "update_user": "update_user",
    "app_type": "APP"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListAppsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    }
}
```

```
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListAppsRequest request = new ListAppsRequest();
try {
    ListAppsResponse response = client.listApps(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAppsRequest()
        response = client.list_apps(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAppsRequest{}
    response, err := client.ListApps(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.7.3 Updating an App

Function

App update

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1/{project_id}/service/apps/{app_id}

Table 9-246 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
app_id	Yes	String	Application ID

Request Parameters

Table 9-247 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Table 9-248 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	Application name.
description	No	String	Application description.

Response Parameters

Status code: 200

Table 9-249 Response body parameters

Parameter	Type	Description
id	String	App ID
name	String	Application name.
description	String	Application description.
app_key	String	Application key.
app_secret	String	Application secret.
register_time	Long	Creation time.
update_time	Long	Update time.
create_user	String	Creator.
update_user	String	Updater.

Parameter	Type	Description
app_type	String	App type. Enumerated values: <ul style="list-style-type: none"> • APP: app • IAM: IAM • APIG: APIG (discarded) • APIGW: APIGW (deprecated) • DLM: DataArts DataService (deprecated) • ROMA_APIC: ROMA (deprecated)

Status code: 400

Table 9-250 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Update an app.

```

/v1/0833a5737480d53b2f250010d01a7b88/service/apps/760715eb1bfce0c575abab3be3bd41e6
{
  "name": "app_test_001",
  "description": "This is the app's description."
}

```

Example Responses

Status code: 200

Success

```

{
  "id": "908489209a320df61607355c57c82882",
  "name": "app_test_001",
  "description": "This is the app's description.",
  "app_key": "fbbf9462bb434cb4a13ee7d2bb70c418",
  "app_secret": "c1245f01937442e098ffa6ff134cb3dc",
  "register_time": 1578284788000,
  "update_time": 1578284788000,
  "create_user": "create_user",
  "update_user": "update_user",
  "app_type": "APP"
}

```

SDK Sample Code

The SDK sample code is as follows.

Java

Update an app.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class UpdateAppSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        UpdateAppRequest request = new UpdateAppRequest();
        request.withAppId("{app_id}");
        AppUpdateDTO body = new AppUpdateDTO();
        body.withDescription("This is the app's description.");
        body.withName("app_test_001");
        request.withBody(body);
        try {
            UpdateAppResponse response = client.updateApp(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Update an app.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateAppRequest()
        request.app_id = "{app_id}"
        request.body = AppUpdateDTO(
            description="This is the app's description.",
            name="app_test_001"
        )
        response = client.update_app(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Update an app.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()
```

```
client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.UpdateAppRequest{}
request.AppId = "{app_id}"
descriptionAppUpdateDto:= "This is the app's description."
nameAppUpdateDto:= "app_test_001"
request.Body = &model.AppUpdateDto{
    Description: &descriptionAppUpdateDto,
    Name: &nameAppUpdateDto,
}
response, err := client.UpdateApp(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.7.4 Deleting an Ap

Function

Delete an app.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v1/{project_id}/service/apps/{app_id}

Table 9-251 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
app_id	Yes	String	Application ID

Request Parameters

Table 9-252 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 400

Table 9-253 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete an app.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apps/760715eb1bfce0c575abab3be3bd41e6
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class DeleteAppSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        DeleteAppRequest request = new DeleteAppRequest();
        request.withAppId("{app_id}");
        try {
            DeleteAppResponse response = client.deleteApp(request);
            System.out.println(response.toString());
        } catch (ServiceResponseException e) {
            System.out.println(e.getMessage());
        }
    }
}
```

```
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteAppRequest()
        request.app_id = "{app_id}"
        response = client.delete_app(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
```

```
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.DeleteAppRequest{}
request.AppId = "{app_id}"
response, err := client.DeleteApp(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	Success
400	Bad request

9.7.5 Querying the Details About an App

Function

This API is used to query app details.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/apps/{app_id}

Table 9-254 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
app_id	Yes	String	Application ID

Request Parameters

Table 9-255 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-256 Response body parameters

Parameter	Type	Description
id	String	App ID
name	String	Application name.
description	String	Application description.
app_key	String	Application key.
app_secret	String	Application secret.
register_time	Long	Creation time.
update_time	Long	Update time.
create_user	String	Creator.
update_user	String	Updater.
app_type	String	App type. Enumerated values: <ul style="list-style-type: none">• APP: app• IAM: IAM• APIG: APIG (discarded)• APIGW: APIGW (deprecated)• DLM: DataArts DataService (deprecated)• ROMA_APIC: ROMA (deprecated)

Status code: 400**Table 9-257** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query app details.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/apps/760715eb1bfce0c575abab3be3bd41e6
```

Example Responses

Status code: 200

Success

```
{
  "id" : "908489209a320df61607355c57c82882",
  "name" : "app_test_001",
  "description" : "This is the app's description.",
  "app_key" : "fbbf9462bb434cb4a13ee7d2bb70c418",
  "app_secret" : "c1245f01937442e098ffa6ff134cb3dc",
  "register_time" : 1578284788000,
  "update_time" : 1578284788000,
  "create_user" : "create_user",
  "update_user" : "update_user",
  "app_type" : "APP"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowAppInfoSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowAppInfoRequest request = new ShowAppInfoRequest();
        request.withAppId("{app_id}");
        try {
            ShowAppInfoResponse response = client.showAppInfo(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
        }
    }
}
```

```
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAppInfoRequest()
        request.app_id = "{app_id}"
        response = client.show_app_info(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
```

```
Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ShowAppInfoRequest{}
request.AppId = "{app_id}"
response, err := client.ShowAppInfo(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Success
400	Bad request

9.8 Overview

9.8.1 Querying and Collecting Statistics on User-related Overview Development Indicators

Function

This API is used to query and collect statistics on user-related overview development metrics.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/statistic/apis-overview

Table 9-258 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-259 Query Parameters

Parameter	Mandatory	Type	Description
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none">• HOURLY: hour• DAILY: day

Request Parameters

Table 9-260 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-261 Response body parameters

Parameter	Type	Description
publish_num	Integer	Number of released APIs.
developing_num	Integer	Number of APIs being developed.
apply_num	Integer	Number of applications.
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).
fail_num	Integer	Number of failed invoking times (data obtaining failure).
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).

Status code: 400

Table 9-262 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query and collect statistics on user-related overview development metrics.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apis-overview
```

Example Responses

Status code: 200

The user-related overview development indicators are successfully queried.

```
{
  "publish_num" : 54,
  "developing_num" : 117,
  "apply_num" : 4,
  "call_num" : 10,
  "success_num" : 9,
  "fail_num" : 1,
  "legal_num" : 10,
  "illegal_num" : 0
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowApisOverviewSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowApisOverviewRequest request = new ShowApisOverviewRequest();
        try {
            ShowApisOverviewResponse response = client.showApisOverview(request);
            System.out.println(response.toString());
        }
    }
}
```



```
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowApisOverviewRequest()
        response = client.show_apis_overview(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ShowApisOverviewRequest{}
response, err := client.ShowApisOverview(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The user-related overview development indicators are successfully queried.
400	Bad request

9.8.2 This API is used to query and collect statistics on user-related overview invoking metrics.

Function

This API is used to query and collect statistics on user-related overview invoking metrics.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/statistic/apps-overview

Table 9-263 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-264 Query Parameters

Parameter	Mandatory	Type	Description
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none">• HOURLY: hour• DAILY: day

Request Parameters

Table 9-265 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-266 Response body parameters

Parameter	Type	Description
apply_num	Integer	Number of applications.
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).
fail_num	Integer	Number of failed invoking times (data obtaining failure).
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).

Status code: 400

Table 9-267 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query and collect statistics on user-related overview invoking metrics.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apps-overview
```

Example Responses

Status code: 200

The user-related overview invoking metrics are successfully queried.

```
{
  "apply_num" : 4,
  "call_num" : 10,
  "success_num" : 9,
  "fail_num" : 1,
  "legal_num" : 10,
  "illegal_num" : 0
}
```

Status Codes

Status Code	Description
200	The user-related overview invoking metrics are successfully queried.
400	Bad request

9.8.3 Querying Top N API Services Invoked

Function

This API is used to query the top N API services invoked.

Calling Method

For details, see [Calling APIs](#).

URI

```
GET /v1/{project_id}/service/statistic/apis-top-n
```

Table 9-268 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-269 Query Parameters

Parameter	Mandatory	Type	Description
instance_id	No	String	Cluster ID
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none">• HOUR: hour• DAY: day
top_num	Yes	Integer	The first few.
order_by	Yes	String	Sorting criteria Enumerated values: <ul style="list-style-type: none">• CALL_NUM: total number of calls• SUCCESS_NUM: number of successful calls• FAIL_NUM: number of failed calls• LEGAL_NUM: number of legal calls• ILLEGAL_NUM: number of illegal calls• COST_TIME_AVG: average time• SUCCESS_COST_TIME_AVG: average time for a successful call• FAIL_COST_TIME_AVG: average time for a failed call• SUCCESS_RATE: rate of successful calls• FAIL_RATE: rate of failed calls• LEGAL_RATE: rate of legal calls• ILLEGAL_RATE: rate of illegal calls

Request Parameters

Table 9-270 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200**Table 9-271** Response body parameters

Parameter	Type	Description
statistics	Array of StatisticForDetail objects	Statistics details list.

Table 9-272 StatisticForDetail

Parameter	Type	Description
id	String	ID of a statistical object.
name	String	Name of the statistics object.
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).
fail_num	Integer	Number of failed invoking times (data obtaining failure).
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).
cost_time_avg	Number	Average request duration.
success_cost_time_avg	Number	Average duration of successful requests.
fail_cost_time_avg	Number	Average duration of failed requests.
success_rate	Number	Success rate.
fail_rate	Number	Indicates the failure rate.
legal_rate	Number	Legality rate.
illegal_rate	Number	Illegal rate.

Status code: 400**Table 9-273** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the top N API services invoked.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apis-top-n
```


Example Responses

Status code: 200

The top N API services are successfully queried.

```
{
  "statistics" : [ {
    "id" : "3423634676234236674",
    "name" : "Statistical Object Name",
    "call_num" : 0,
    "success_num" : 0,
    "fail_num" : 0,
    "legal_num" : 0,
    "illegal_num" : 0,
    "cost_time_avg" : 0,
    "success_cost_time_avg" : 0,
    "fail_cost_time_avg" : 0,
    "success_rate" : 0,
    "fail_rate" : 0,
    "legal_rate" : 0,
    "illegal_rate" : 0
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListApisTopSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListApisTopRequest request = new ListApisTopRequest();
        try {
            ListApisTopResponse response = client.listApisTop(request);
        }
    }
}
```

```
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListApisTopRequest()
        response = client.list_apis_top(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
```

```
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ListApisTopRequest{}
response, err := client.ListApisTop(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The top N API services are successfully queried.
400	Bad request

9.8.4 Querying Top N Services Used by an App

Function

This API is used to query top N services used by an app.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/statistic/apps-top-n

Table 9-274 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-275 Query Parameters

Parameter	Mandatory	Type	Description
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none">• HOURLY: hour• DAILY: day
top_num	Yes	Integer	The first few.

Parameter	Mandatory	Type	Description
order_by	Yes	String	<p>Sorting criteria</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • CALL_NUM: total number of calls • SUCCESS_NUM: number of successful calls • FAIL_NUM: number of failed calls • LEGAL_NUM: number of legal calls • ILLEGAL_NUM: number of illegal calls • COST_TIME_AVG: average time • SUCCESS_COST_TIME_AVG: average time for a successful call • FAIL_COST_TIME_AVG: average time for a failed call • SUCCESS_RATE: rate of successful calls • FAIL_RATE: rate of failed calls • LEGAL_RATE: rate of legal calls • ILLEGAL_RATE: rate of illegal calls

Request Parameters

Table 9-276 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p>User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.</p>

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-277 Response body parameters

Parameter	Type	Description
statistics	Array of StatisticForDetail objects	Statistics details list.

Table 9-278 StatisticForDetail

Parameter	Type	Description
id	String	ID of a statistical object.
name	String	Name of the statistics object.
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).
fail_num	Integer	Number of failed invoking times (data obtaining failure).

Parameter	Type	Description
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).
cost_time_avg	Number	Average request duration.
success_cost_time_avg	Number	Average duration of successful requests.
fail_cost_time_avg	Number	Average duration of failed requests.
success_rate	Number	Success rate.
fail_rate	Number	Indicates the failure rate.
legal_rate	Number	Legality rate.
illegal_rate	Number	Illegal rate.

Status code: 400

Table 9-279 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query top N services used by an app.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apps-top-n
```

Example Responses

Status code: 200

Top N app services are queried successfully.

```
{
  "statistics": [ {
    "id": "3423634676234236674",
    "name": "Statistical Object Name",
    "call_num": 0,
    "success_num": 0,
    "fail_num": 0,
    "legal_num": 0,
    "illegal_num": 0,
    "cost_time_avg": 0,
    "success_cost_time_avg": 0,
  }
]
```

```
"fail_cost_time_avg" : 0,  
"success_rate" : 0,  
"fail_rate" : 0,  
"legal_rate" : 0,  
"illegal_rate" : 0  
} ]  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ListAppsTopSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        ListAppsTopRequest request = new ListAppsTopRequest();  
        try {  
            ListAppsTopResponse response = client.listAppsTop(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```


Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAppsTopRequest()
        response = client.list_apps_top(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
```

```
Build()  
  
request := &model.ListAppsTopRequest{}  
response, err := client.ListAppsTop(request)  
if err == nil {  
    fmt.Printf("%+v\n", response)  
} else {  
    fmt.Println(err)  
}  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Top N app services are queried successfully.
400	Bad request

9.8.5 Querying API Statistics Details

Function

This API is used to query API statistics details.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/statistic/apis-detail/{api_id}

Table 9-280 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID

Table 9-281 Query Parameters

Parameter	Mandatory	Type	Description
instance_id	No	String	Cluster ID
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none">• HOUR: hour• DAY: day

Request Parameters

Table 9-282 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-283 Response body parameters

Parameter	Type	Description
id	String	ID of a statistical object.
name	String	Name of the statistics object.
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).
fail_num	Integer	Number of failed invoking times (data obtaining failure).
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).
cost_time_avg	Number	Average request duration.
success_cost_time_avg	Number	Average duration of successful requests.
fail_cost_time_avg	Number	Average duration of failed requests.
success_rate	Number	Success rate.
fail_rate	Number	Indicates the failure rate.
legal_rate	Number	Legality rate.
illegal_rate	Number	Illegal rate.

Status code: 400

Table 9-284 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query API statistics details.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apis-detail/  
760715eb1bfce0c575abab3be3bd41e6
```

Example Responses

Status code: 200

API statistics details are queried successfully.

```
{  
  "id" : "3423634676234236674",  
  "name" : "Statistical Object Name",  
  "call_num" : 0,  
  "success_num" : 0,  
  "fail_num" : 0,  
  "legal_num" : 0,  
  "illegal_num" : 0,  
  "cost_time_avg" : 0,  
  "success_cost_time_avg" : 0,  
  "fail_cost_time_avg" : 0,  
  "success_rate" : 0,  
  "fail_rate" : 0,  
  "legal_rate" : 0,  
  "illegal_rate" : 0  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowApisDetailSolution {  
    public static void main(String[] args) {
```

```
// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
String ak = System.getenv("CLOUD_SDK_AK");
String sk = System.getenv("CLOUD_SDK_SK");
String projectId = "{project_id}";

ICredential auth = new BasicCredentials()
    .withProjectId(projectId)
    .withAk(ak)
    .withSk(sk);

DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ShowApisDetailRequest request = new ShowApisDetailRequest();
request.withApiId("{api_id}");
try {
    ShowApisDetailResponse response = client.showApisDetail(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowApisDetailRequest()
        request.api_id = "{api_id}"
        response = client.show_apis_detail(request)
        print(response)
```

```
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowApisDetailRequest{}
    request.ApiId = "{api_id}"
    response, err := client.ShowApisDetail(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	API statistics details are queried successfully.
400	Bad request

9.8.6 Querying App Statistics

Function

This API is used to query the statistics of an app.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/statistic/apps-detail/{app_id}

Table 9-285 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
app_id	Yes	String	App ID

Table 9-286 Query Parameters

Parameter	Mandatory	Type	Description
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none">● HOURLY: hour● DAILY: day

Request Parameters

Table 9-287 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200**Table 9-288** Response body parameters

Parameter	Type	Description
id	String	ID of a statistical object.
name	String	Name of the statistics object.
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).

Parameter	Type	Description
fail_num	Integer	Number of failed invoking times (data obtaining failure).
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).
cost_time_avg	Number	Average request duration.
success_cost_time_avg	Number	Average duration of successful requests.
fail_cost_time_avg	Number	Average duration of failed requests.
success_rate	Number	Success rate.
fail_rate	Number	Indicates the failure rate.
legal_rate	Number	Legality rate.
illegal_rate	Number	Illegal rate.

Status code: 400

Table 9-289 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the statistics of an app.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apps-detail/  
760715eb1bfce0c575abab3be3bd41e6
```

Example Responses

Status code: 200

App statistics details are queried successfully.

```
{  
  "id" : "3423634676234236674",  
  "name" : "Statistical Object Name",  
  "call_num" : 0,  
  "success_num" : 0,  
  "fail_num" : 0,  
  "legal_num" : 0,  
}
```

```
"illegal_num" : 0,  
"cost_time_avg" : 0,  
"success_cost_time_avg" : 0,  
"fail_cost_time_avg" : 0,  
"success_rate" : 0,  
"fail_rate" : 0,  
"legal_rate" : 0,  
"illegal_rate" : 0  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowAppsDetailSolution {  
  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);  
  
        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()  
            .withCredential(auth)  
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))  
            .build();  
        ShowAppsDetailRequest request = new ShowAppsDetailRequest();  
        request.withAppId("{app_id}");  
        try {  
            ShowAppsDetailResponse response = client.showAppsDetail(request);  
            System.out.println(response.toString());  
        } catch (ConnectionException e) {  
            e.printStackTrace();  
        } catch (RequestTimeoutException e) {  
            e.printStackTrace();  
        } catch (ServiceResponseException e) {  
            e.printStackTrace();  
            System.out.println(e.getHttpStatusCode());  
            System.out.println(e.getRequestId());  
            System.out.println(e.getErrorCode());  
            System.out.println(e.getErrorMsg());  
        }  
    }  
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAppsDetailRequest()
        request.app_id = "{app_id}"
        response = client.show_apps_detail(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
```

```
WithCredential(auth).
Build()

request := &model.ShowAppsDetailRequest{}
request.AppId = "{app_id}"
response, err := client.ShowAppsDetail(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	App statistics details are queried successfully.
400	Bad request

9.8.7 Querying API Dashboard Data Details

Function

This API is used to query API dashboard data details.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/statistic/apis-dashboards

Table 9-290 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-291 Query Parameters

Parameter	Mandatory	Type	Description
instance_id	No	String	Cluster ID
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none">• HOURLY: hour• DAILY: day
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-292 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-293 Response body parameters

Parameter	Type	Description
dashboards	Array of StatisticForDashboard objects	Statistics dashboard.

Table 9-294 StatisticForDashboard

Parameter	Type	Description
log_time	Integer	Statistical time point (13-bit timestamp).
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).
fail_num	Integer	Number of failed invoking times (data obtaining failure).
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).
cost_time_avg	Number	Average request duration.
success_cost_time_avg	Number	Average duration of successful requests.

Parameter	Type	Description
fail_cost_time_avg	Number	Average duration of failed requests.
success_rate	Number	Success rate.
fail_rate	Number	Indicates the failure rate.
legal_rate	Number	Legality rate.
illegal_rate	Number	Illegal rate.

Status code: 400

Table 9-295 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query API dashboard data details.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apis-dashboards
```

Example Responses

Status code: 200

API dashboard data details are queried successfully.

```
{
  "dashboards": [ {
    "log_time": 1629403200000,
    "call_num": 0,
    "success_num": 0,
    "fail_num": 0,
    "legal_num": 0,
    "illegal_num": 0,
    "cost_time_avg": 0,
    "success_cost_time_avg": 0,
    "fail_cost_time_avg": 0,
    "success_rate": 0,
    "fail_rate": 0,
    "legal_rate": 0,
    "illegal_rate": 0
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowApisDashboardSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowApisDashboardRequest request = new ShowApisDashboardRequest();
        try {
            ShowApisDashboardResponse response = client.showApisDashboard(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = DataArtsStudioClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ShowApisDashboardRequest()
    response = client.show_apis_dashboard(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowApisDashboardRequest{}
    response, err := client.ShowApisDashboard(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	API dashboard data details are queried successfully.
400	Bad request

9.8.8 Querying Data Details of a Specified API Dashboard

Function

This API is used to query details about a specified API dashboard.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/statistic/apis-dashboards/{api_id}

Table 9-296 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID

Table 9-297 Query Parameters

Parameter	Mandatory	Type	Description
instance_id	No	String	Cluster ID
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).

Parameter	Mandatory	Type	Description
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none"> • HOUR: hour • DAY: day

Request Parameters

Table 9-298 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-299 Response body parameters

Parameter	Type	Description
dashboards	Array of StatisticForDashboard objects	Statistics dashboard.

Table 9-300 StatisticForDashboard

Parameter	Type	Description
log_time	Integer	Statistical time point (13-bit timestamp).
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).
fail_num	Integer	Number of failed invoking times (data obtaining failure).
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).
cost_time_avg	Number	Average request duration.
success_cost_time_avg	Number	Average duration of successful requests.
fail_cost_time_avg	Number	Average duration of failed requests.
success_rate	Number	Success rate.
fail_rate	Number	Indicates the failure rate.
legal_rate	Number	Legality rate.
illegal_rate	Number	Illegal rate.

Status code: 400**Table 9-301** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query details about a specified API dashboard.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apis-dashboards/  
760715eb1bfce0c575abab3be3bd41e6
```

Example Responses

Status code: 200

The data details of the specified API dashboard are queried successfully.

```
{  
  "dashboards": [ {  
    "log_time": 1629403200000,  
    "call_num": 0,  
    "success_num": 0,  
    "fail_num": 0,  
    "legal_num": 0,  
    "illegal_num": 0,  
    "cost_time_avg": 0,  
    "success_cost_time_avg": 0,  
    "fail_cost_time_avg": 0,  
    "success_rate": 0,  
    "fail_rate": 0,  
    "legal_rate": 0,  
    "illegal_rate": 0  
  } ]  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;  
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;  
import com.huaweicloud.sdk.dataartsstudio.v1.*;  
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;  
  
public class ShowApiDashboardSolution {  
    public static void main(String[] args) {  
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great  
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or  
        // environment variables and decrypted during use to ensure security.  
        // In this example, AK and SK are stored in environment variables for authentication. Before running  
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
        String ak = System.getenv("CLOUD_SDK_AK");  
        String sk = System.getenv("CLOUD_SDK_SK");  
        String projectId = "{project_id}";  
  
        ICredential auth = new BasicCredentials()  
            .withProjectId(projectId)  
            .withAk(ak)  
            .withSk(sk);
```

```
DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ShowApiDashboardRequest request = new ShowApiDashboardRequest();
request.withApild("{api_id}");
try {
    ShowApiDashboardResponse response = client.showApiDashboard(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowApiDashboardRequest()
        request.api_id = "{api_id}"
        response = client.show_api_dashboard(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
```

```
"github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowApiDashboardRequest{}
    request.ApiId = "{api_id}"
    response, err := client.ShowApiDashboard(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The data details of the specified API dashboard are queried successfully.
400	Bad request

9.8.9 Querying App Dashboard Data Details

Function

This API is used to query app dashboard data details.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/statistic/apps-dashboards

Table 9-302 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-303 Query Parameters

Parameter	Mandatory	Type	Description
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none">• HOURLY: hour• DAILY: day
limit	No	Integer	Maximum number of records that can be queried
offset	No	Integer	Query offset, that is, X data records are skipped. The value must be 0 or an integer multiple of limit . If the value does not meet the requirements, it will be rounded down.

Request Parameters

Table 9-304 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200**Table 9-305** Response body parameters

Parameter	Type	Description
dashboards	Array of StatisticForDashboard objects	Statistics dashboard.

Table 9-306 StatisticForDashboard

Parameter	Type	Description
log_time	Integer	Statistical time point (13-bit timestamp).
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).
fail_num	Integer	Number of failed invoking times (data obtaining failure).
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).
cost_time_avg	Number	Average request duration.
success_cost_time_avg	Number	Average duration of successful requests.
fail_cost_time_avg	Number	Average duration of failed requests.
success_rate	Number	Success rate.
fail_rate	Number	Indicates the failure rate.
legal_rate	Number	Legality rate.
illegal_rate	Number	Illegal rate.

Status code: 400**Table 9-307** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query app dashboard data details.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apps-dashboards
```

Example Responses

Status code: 200

The app dashboard data details are queried successfully.

```
{
  "dashboards": [ {
    "log_time": 1629403200000,
    "call_num": 0,
    "success_num": 0,
    "fail_num": 0,
    "legal_num": 0,
    "illegal_num": 0,
    "cost_time_avg": 0,
    "success_cost_time_avg": 0,
    "fail_cost_time_avg": 0,
    "success_rate": 0,
    "fail_rate": 0,
    "legal_rate": 0,
    "illegal_rate": 0
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowAppsDashboardSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowAppsDashboardRequest request = new ShowAppsDashboardRequest();
        try {
            ShowAppsDashboardResponse response = client.showAppsDashboard(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
        }
    }
}
```

```
        e.printStackTrace();
        System.out.println(e.getStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAppsDashboardRequest()
        response = client.show_apps_dashboard(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
```

```
WithAk(ak).
WithSk(sk).
WithProjectId(projectId).
Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ShowAppsDashboardRequest{}
response, err := client.ShowAppsDashboard(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The app dashboard data details are queried successfully.
400	Bad request

9.8.10 Querying Top N APIs Called by a Specified API Application

Function

This API is used to query top N APIs called by a specified application.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/statistic/apis-top-n/{api_id}

Table 9-308 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
api_id	Yes	String	API ID

Table 9-309 Query Parameters

Parameter	Mandatory	Type	Description
instance_id	No	String	Cluster ID
start_time	Yes	Long	Start time (13-digit timestamp).
end_time	Yes	Long	End time (13-digit timestamp).
time_unit	Yes	String	Time unit Enumerated values: <ul style="list-style-type: none">• HOURLY: hour• DAILY: day
top_num	Yes	Integer	The first few.

Parameter	Mandatory	Type	Description
order_by	Yes	String	<p>Sorting criteria</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • CALL_NUM: total number of calls • SUCCESS_NUM: number of successful calls • FAIL_NUM: number of failed calls • LEGAL_NUM: number of legal calls • ILLEGAL_NUM: number of illegal calls • COST_TIME_AVG: average time • SUCCESS_COST_TIME_AVG: average time for a successful call • FAIL_COST_TIME_AVG: average time for a failed call • SUCCESS_RATE: rate of successful calls • FAIL_RATE: rate of failed calls • LEGAL_RATE: rate of legal calls • ILLEGAL_RATE: rate of illegal calls

Request Parameters

Table 9-310 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p>User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.</p>

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	Yes	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-311 Response body parameters

Parameter	Type	Description
statistics	Array of StatisticForCallDetail objects	Indicates the invoking information list.

Table 9-312 StatisticForCallDetail

Parameter	Type	Description
id	String	ID of a statistical object.
name	String	Name of the statistics object.
call_num	Integer	Total number of invoking times.
success_num	Integer	Number of successful invoking times (data obtaining success).
fail_num	Integer	Number of failed invoking times (data obtaining failure).

Parameter	Type	Description
legal_num	Integer	Number of valid invoking times (pass the verification).
illegal_num	Integer	Invalid invoking volume (failed to pass the verification).

Status code: 400

Table 9-313 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query top N APIs called by a specified application.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/statistic/apis-top-n/  
760715eb1bfce0c575abab3be3bd41e6
```

Example Responses

Status code: 200

The top N APIs called by a specified application are queried successfully.

```
{  
  "statistics": [ {  
    "id": "3423634676234236674",  
    "name": "Statistical Object Name",  
    "call_num": 0,  
    "success_num": 0,  
    "fail_num": 0,  
    "legal_num": 0,  
    "illegal_num": 0  
  } ]  
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;  
  
import com.huaweicloud.sdk.core.auth.ICredential;  
import com.huaweicloud.sdk.core.auth.BasicCredentials;  
import com.huaweicloud.sdk.core.exception.ConnectionException;  
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;  
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
```

```
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListApiTopNSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListApiTopNRequest request = new ListApiTopNRequest();
        request.withApiId("{api_id}");
        try {
            ListApiTopNResponse response = client.listApiTopN(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
```

```
.with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
.build()

try:
    request = ListApiTopNRequest()
    request.api_id = "{api_id}"
    response = client.list_api_top_n(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListApiTopNRequest{}
    request.ApiId = "{api_id}"
    response, err := client.ListApiTopN(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The top N APIs called by a specified application are queried successfully.
400	Bad request

9.9 Cluster Management

9.9.1 Querying the List of Cluster Overview Information

Function

This API is used to query the cluster overview information list.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/instances/overview

Table 9-314 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-315 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records that can be queried.
offset	No	Integer	Start coordinate of the query.
name	No	String	Cluster name. This parameter supports fuzzy match.
create_user	No	String	Creator name.

Request Parameters

Table 9-316 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	No	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200**Table 9-317** Response body parameters

Parameter	Type	Description
total	Integer	Number of clusters
scale_down	Boolean	Specifies whether scale-in is supported.
scale_out	Boolean	Specifies whether capacity expansion is supported.

Parameter	Type	Description
instances	Array of InstanceOverviewDTO objects	Cluster overview information.

Table 9-318 InstanceOverviewDTO

Parameter	Type	Description
id	String	Cluster ID
name	String	Cluster name
description	String	Provides supplementary information about the cluster.
external_address	String	External IP address.
intranet_address	String	Internal IPv4 address.
intranet_address_ipv6	String	Internal IPv6 address.
public_zone_id	String	Public zone ID.
public_zone_name	String	Specifies the public zone name.
private_zone_id	String	Specifies the private zone ID.
private_zone_name	String	Specifies the private zone name.
enterprise_project_id	String	Enterprise project ID
create_time	Long	Time when the bandwidth was specified.
create_user	String	Creator.
current_namespace_published_api_num	Integer	Number of APIs that have been published in the current workspace.
all_namespace_published_api_num	Integer	Number of APIs that have been published in all workspaces.
api_publishable_num	Integer	Specifies the total API quota of a cluster.
deletable	Boolean	Specifies whether a cluster can be deleted.

Parameter	Type	Description
charge_status	String	Charging status of a cluster. The options are as follows: NO_CHARGE: not charged; CHARGED: charged; GRACE: grace period; RETENTION: retention period.
order_id	String	Order ID

Status code: 400

Table 9-319 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the list of cluster overview information.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/instances/overview
```

Example Responses

Status code: 200

The request is successful.

```
{
  "total": 1,
  "scale_down": false,
  "scale_out": false,
  "instances": [ {
    "id": "c830776ec23fdffe237a44845f871180",
    "name": "d1m_HCS_20240205",
    "description": "",
    "external_address": "100.85.122.140",
    "intranet_address": "192.168.0.157",
    "intranet_address_ipv6": "2407:c080:11f0:535:8b8f:1825:a0d8:669",
    "private_zone_id": null,
    "private_zone_name": null,
    "public_zone_id": null,
    "public_zone_name": null,
    "enterprise_project_id": "0",
    "create_time": 1708400912000,
    "create_user": "user",
    "current_namespace_publish_api_num": 1,
    "all_namespace_publish_api_num": 1,
    "api_publishable_num": 500,
    "deletable": true,
    "charge_status": "CHARGED",
    "order_id": "c0c3fd9770a54baa8a430ef82218732f"
  } ]
}
```


SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListDataServiceInstancesOverviewSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ListDataServiceInstancesOverviewRequest request = new ListDataServiceInstancesOverviewRequest();
        try {
            ListDataServiceInstancesOverviewResponse response =
client.listDataServiceInstancesOverview(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *
```

```
if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListDataServiceInstancesOverviewRequest()
        response = client.list_data_service_instances_overview(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := dataartsstudio.NewDataArtsStudioClient(
        dataartsstudio.DataArtsStudioClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListDataServiceInstancesOverviewRequest{}
    response, err := client.ListDataServiceInstancesOverview(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The request is successful.
400	Bad request

9.9.2 Querying the List of Cluster Details

Function

This API is used to query the list of cluster details.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/instances

Table 9-320 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .

Table 9-321 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records that can be queried.
offset	No	Integer	Start coordinate of the query.
name	No	String	Cluster name. This parameter supports fuzzy match.
create_user	No	String	Creator name.

Request Parameters

Table 9-322 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	No	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200**Table 9-323** Response body parameters

Parameter	Type	Description
total	Integer	Number of clusters

Parameter	Type	Description
instances	Array of InstanceDetailDTO objects	Cluster overview information.

Table 9-324 InstanceDetailDTO

Parameter	Type	Description
id	String	Cluster ID
name	String	Cluster name
description	String	Provides supplementary information about the cluster.
external_address	String	External IP address.
intranet_address	String	Internal IPv4 address.
intranet_address_ipv6	String	Internal IPv6 address.
public_zone_id	String	Public zone ID.
public_zone_name	String	Specifies the public zone name.
private_zone_id	String	Specifies the private zone ID.
private_zone_name	String	Specifies the private zone name.
enterprise_project_id	String	Enterprise project ID
create_time	Long	Creation time.
create_user	String	Creator.
current_namespace_publish_api_num	Integer	Number of APIs that have been published in the current workspace.
all_namespace_publish_api_num	Integer	Number of APIs that have been published in all workspaces.
api_publishable_num	Integer	Specifies the total API quota of a cluster.
deletable	Boolean	Specifies whether a cluster can be deleted.

Parameter	Type	Description
charge_status	String	Charging status of a cluster. The options are as follows: NO_CHARGE: not charged; CHARGED: charged; GRACE: grace period; RETENTION: retention period.
order_id	String	Order ID
order_type	String	Order type. The options are as follows: PERIOD: yearly/monthly; ON_DEMAND: pay-per-use.
period_type	String	Cluster subscription period type.
instance_status	String	Cluster status.
node_num	Integer	Number of nodes.
flavor	FlavorDTO object	Cluster node specifications.
gateway_version	String	Cluster version.
availability_zone	String	Code of the AZ where the cluster is located.
availability_zone_name	String	Name of the AZ where the cluster is located.
vpc_id	String	ID of the VPC to which the cluster belongs.
subnet_id	String	ID of the subnet where the cluster is located.
security_group_id	String	ID of the security group to which the cluster belongs.
nodes	Array of InstanceNodeDTO objects	Cluster node list.

Table 9-325 FlavorDTO

Parameter	Type	Description
id	String	Specifies the flavor ID.
name	String	Flavor name
disk	Integer	Disk size.
cpu	Integer	Number of vCPUs.
mem	Integer	Memory size.

Table 9-326 InstanceNodeDTO

Parameter	Type	Description
id	String	Node ID.
name	String	Node name.
private_ip	String	IP addresses of the nodes
status	String	Indicates the node status.
create_user	String	Node creator.
create_time	String	Time when a node is created
gateway_version	String	Node version number.

Status code: 400**Table 9-327** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the list of cluster details.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/instances
```

Example Responses

Status code: 200

The request is successful.

```
{
  "total": 1,
  "instances": [ {
    "node_num": 1,
    "flavor": {
      "id": "95d4e992-6e3c-11ea-8e90-fa163e35",
      "name": "Small-scale dedicated for tests (x86)",
      "disk": 120,
      "cpu": 8,
      "mem": 16
    },
    "gateway_version": "3.0.5",
    "availability_zone": "cn-north-7c",
    "availability_zone_name": "AZ3",
    "vpc_id": "791a1ee9-aacf-477a-b00e-dfb18aa364eb",
    "subnet_id": "43de865d-e4ce-48c3-8c92-f4972026f4c4",
    "security_group_id": "e7527b7f-03d2-49b8-9e78-f4fc3886e792",
    "nodes": [ {
```

```
"id" : "49fdf486-af68-4967-8d96-2aca93dc2dbb",
"name" : "dml_HCS_20240205-dayu_dlm-instance-1-1",
"private_ip" : "192.168.0.130",
"status" : "RUNNING",
"create_user" : "user",
"create_time" : "2024-02-20T03:59:25Z",
"gateway_version" : "3.0.5"
}],
"id" : "c830776ec23fdffe237a44845f871180",
"name" : "dml_HCS_20240205",
"description" : "",
"external_address" : "100.85.122.140",
"intranet_address" : "192.168.0.157",
"intranet_address_ipv6" : "2407:c080:11f0:535:8b8f:1825:a0d8:669",
"private_zone_id" : null,
"private_zone_name" : null,
"public_zone_id" : null,
"public_zone_name" : null,
"instance_status" : "RUNNING",
"enterprise_project_id" : "0",
"create_time" : 1708400912000,
"create_user" : "user",
"current_namespace_publish_api_num" : null,
"all_namespace_publish_api_num" : null,
"api_publishable_num" : null,
"deletable" : true,
"charge_status" : "CHARGED",
"period_type" : "ABSOLUTE",
"order_type" : "ON_DEMAND",
"order_id" : null
}
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ListDataServiceInstancesDetailSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);
```



```
DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
    .withCredential(auth)
    .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
    .build();
ListDataServiceInstancesDetailRequest request = new ListDataServiceInstancesDetailRequest();
try {
    ListDataServiceInstancesDetailResponse response = client.listDataServiceInstancesDetail(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListDataServiceInstancesDetailRequest()
        response = client.list_data_service_instances_detail(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)
```

```
)  
  
func main() {  
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security  
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment  
    // variables and decrypted during use to ensure security.  
    // In this example, AK and SK are stored in environment variables for authentication. Before running this  
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment  
    ak := os.Getenv("CLOUD_SDK_AK")  
    sk := os.Getenv("CLOUD_SDK_SK")  
    projectId := "{project_id}"  
  
    auth := basic.NewCredentialsBuilder().  
        WithAk(ak).  
        WithSk(sk).  
        WithProjectId(projectId).  
        Build()  
  
    client := dataartsstudio.NewDataArtsStudioClient(  
        dataartsstudio.DataArtsStudioClientBuilder().  
            WithRegion(region.ValueOf("<YOUR REGION>")).  
            WithCredential(auth).  
            Build()  
    )  
  
    request := &model.ListDataServiceInstancesDetailRequest{}  
    response, err := client.ListDataServiceInstancesDetail(request)  
    if err == nil {  
        fmt.Printf("%+v\n", response)  
    } else {  
        fmt.Println(err)  
    }  
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The request is successful.
400	Bad request

9.9.3 Querying Cluster Details

Function

This API is used to query cluster details.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/instances/{instance_id}

Table 9-328 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Project ID and Account ID .
instance_id	Yes	String	Cluster ID.

Request Parameters

Table 9-329 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain the workspace ID, see Instance ID and Workspace ID .
Dlm-Type	No	String	Specifies the version type of the data service. The value can be SHARED or EXCLUSIVE.
Content-Type	No	String	Type (format) of the message body. This parameter is mandatory if the message body exists. If the message body does not exist, leave this parameter blank. If the request body contains Chinese characters, use charset=utf8 to specify the Chinese character set, for example, application/json;charset=utf8.

Response Parameters

Status code: 200

Table 9-330 Response body parameters

Parameter	Type	Description
id	String	Cluster ID
name	String	Cluster name
description	String	Provides supplementary information about the cluster.
external_address	String	External IP address.
intranet_address	String	Internal IPv4 address.
intranet_address_ipv6	String	Internal IPv6 address.
public_zone_id	String	Public zone ID.
public_zone_name	String	Specifies the public zone name.
private_zone_id	String	Specifies the private zone ID.
private_zone_name	String	Specifies the private zone name.
enterprise_project_id	String	Enterprise project ID
create_time	Long	Creation time.
create_user	String	Creator.
current_namespace_publish_api_num	Integer	Number of APIs that have been published in the current workspace.
all_namespace_publish_api_num	Integer	Number of APIs that have been published in all workspaces.
api_publishable_num	Integer	Specifies the total API quota of a cluster.
deletable	Boolean	Specifies whether a cluster can be deleted.
charge_status	String	Charging status of a cluster. The options are as follows: NO_CHARGE: not charged; CHARGED: charged; GRACE: grace period; RETENTION: retention period.
order_id	String	Order ID

Parameter	Type	Description
order_type	String	Order type. The options are as follows: PERIOD: yearly/monthly; ON_DEMAND: pay-per-use.
period_type	String	Cluster subscription period type.
instance_status	String	Cluster status.
node_num	Integer	Number of nodes.
flavor	FlavorDTO object	Cluster node specifications.
gateway_version	String	Cluster version.
availability_zone	String	Code of the AZ where the cluster is located.
availability_zone_name	String	Name of the AZ where the cluster is located.
vpc_id	String	ID of the VPC to which the cluster belongs.
subnet_id	String	ID of the subnet where the cluster is located.
security_group_id	String	ID of the security group to which the cluster belongs.
nodes	Array of InstanceNodeDTO objects	Cluster node list.

Table 9-331 FlavorDTO

Parameter	Type	Description
id	String	Specifies the flavor ID.
name	String	Flavor name
disk	Integer	Disk size.
cpu	Integer	Number of vCPUs.
mem	Integer	Memory size.

Table 9-332 InstanceNodeDTO

Parameter	Type	Description
id	String	Node ID.

Parameter	Type	Description
name	String	Node name.
private_ip	String	IP addresses of the nodes
status	String	Indicates the node status.
create_user	String	Node creator.
create_time	String	Time when a node is created
gateway_version	String	Node version number.

Status code: 400

Table 9-333 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the details of a cluster whose ID is 51159105c7838353d2834181d978af50.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/instances/51159105c7838353d2834181d978af50
```

Example Responses

Status code: 200

Successfully queried.

```
{
  "node_num" : 1,
  "flavor" : {
    "id" : "95d4e992-6e3c-11ea-8e90-fa163e35",
    "name" : "Small-scale dedicated for tests (x86)",
    "disk" : 120,
    "cpu" : 8,
    "mem" : 16
  },
  "gateway_version" : "3.0.5",
  "availability_zone" : "cn-north-7c",
  "availability_zone_name" : "AZ3",
  "vpc_id" : "791a1ee9-aacf-477a-b00e-dfb18aa364eb",
  "subnet_id" : "43de865d-e4ce-48c3-8c92-f4972026f4c4",
  "security_group_id" : "e7527b7f-03d2-49b8-9e78-f4fc3886e792",
  "nodes" : [ {
    "id" : "49fdf486-af68-4967-8d96-2aca93dc2dbb",
    "name" : "dlm_HCS_20240205-dayu_dlm-instance-1-1",
    "private_ip" : "192.168.0.130",
    "status" : "RUNNING",
    "create_user" : "user",
    "create_time" : "2024-02-20T03:59:25Z",
```

```
"gateway_version" : "3.0.5"
} ],
"id" : "c830776ec23fdffe237a44845f871180",
"name" : "dlm_HCS_20240205",
"description" : "",
"external_address" : "100.85.122.140",
"intranet_address" : "192.168.0.157",
"intranet_address_ipv6" : "2407:c080:11f0:535:8b8f:1825:a0d8:669",
"private_zone_id" : null,
"private_zone_name" : null,
"public_zone_id" : null,
"public_zone_name" : null,
"instance_status" : "RUNNING",
"enterprise_project_id" : "0",
"create_time" : 1708400912000,
"create_user" : "user",
"current_namespace_publish_api_num" : null,
"all_namespace_publish_api_num" : null,
"api_publishable_num" : null,
"deletable" : true,
"charge_status" : "CHARGED",
"period_type" : "ABSOLUTE",
"order_type" : "ON_DEMAND",
"order_id" : null
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.dataartsstudio.v1.region.DataArtsStudioRegion;
import com.huaweicloud.sdk.dataartsstudio.v1.*;
import com.huaweicloud.sdk.dataartsstudio.v1.model.*;

public class ShowDataServiceInstanceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        DataArtsStudioClient client = DataArtsStudioClient.newBuilder()
            .withCredential(auth)
            .withRegion(DataArtsStudioRegion.valueOf("<YOUR REGION>"))
            .build();
        ShowDataServiceInstanceRequest request = new ShowDataServiceInstanceRequest();
        request.withInstanceId("{instance_id}");
        try {
```

```
        ShowDataServiceInstanceResponse response = client.showDataServiceInstance(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkdataartsstudio.v1.region.dataartsstudio_region import DataArtsStudioRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkdataartsstudio.v1 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = DataArtsStudioClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(DataArtsStudioRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowDataServiceInstanceRequest()
        request.instance_id = "{instance_id}"
        response = client.show_data_service_instance(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    dataartsstudio "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/dataartsstudio/v1/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
```



```
variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
ak := os.Getenv("CLOUD_SDK_AK")
sk := os.Getenv("CLOUD_SDK_SK")
projectId := "{project_id}"

auth := basic.NewCredentialsBuilder().
    WithAk(ak).
    WithSk(sk).
    WithProjectId(projectId).
    Build()

client := dataartsstudio.NewDataArtsStudioClient(
    dataartsstudio.DataArtsStudioClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ShowDataServiceInstanceRequest{}
request.InstanceId = "{instance_id}"
response, err := client.ShowDataServiceInstance(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in [API Explorer](#). SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Successfully queried.
400	Bad request

9.9.4 Querying Access Logs of a DataArts DataService Cluster

Function

This API is used to query the access logs of a DataArts DataService cluster.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v1/{project_id}/service/instances/{instance_id}/accesslog

Table 9-334 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
instance_id	Yes	String	Cluster ID

Table 9-335 Query Parameters

Parameter	Mandatory	Type	Description
is_api	No	Boolean	Whether to query API access logs. Value true means to query API access logs, and value false means to query app access logs.

Request Parameters

Table 9-336 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain it, see Instance ID and Workspace ID .
Content-Type	No	String	Type (format) of the message body. This parameter is mandatory when there is a body. If the request body contains Chinese characters, use <code>charset=utf8</code> to specify the Chinese character set, for example, application/json; charset=utf8 .

Response Parameters

Status code: 200

Table 9-337 Response body parameters

Parameter	Type	Description
number	Integer	Number of access logs
records	Array of InstanceAccesslog objects	Access logs

Table 9-338 InstanceAccesslog

Parameter	Type	Description
id	String	Cluster ID
request_id	String	Request ID
api_id	String	API ID
api_name	String	API name
app_id	String	App ID
app_name	String	App name
access_time	Long	Access time
duration	Long	Access duration
status_code	String	Status code
error_code	String	Error code
error_message	String	Error message
detail	String	Log details
in_flow_size	Long	Input traffic volume
out_flow_size	Long	Output traffic volume
out_total_size	Long	Number of output data records

Status code: 400

Table 9-339 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the access logs of the cluster whose ID is **4f9366ce3e87860934c36d0ac027ad6a**.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/instances/4f9366ce3e87860934c36d0ac027ad6a/accesslog
```

Example Responses

Status code: 200

The query is successful.

```
{
  "records": [ {
    "id": "00006e83b668b67defff1259962909740634112",
    "request_id": "1259962909740634112",
    "api_id": "71a96065c1e0bf11d0914c0658951246",
    "api_name": "iam_post_query",
    "app_id": null,
    "app_name": null,
    "access_time": 1720440166661,
    "duration": 33,
    "status_code": "200",
    "error_code": null,
    "error_message": null,
    "detail": "_____Verification information_____\\nAPI authentication verification: completed.\\nApp authentication verification: completed.\\nAccess permission authentication: completed.\\n\\n_____Parameter information_____\\n[path parameter]:\\n\\n[header parameter]:\\n\\nlanguage : en-us\\naccept : */*\\n[query parameter]:\\na : 1\\n[body parameter]:\\n\\n_____SQL information_____\\nSELECT \"bt_col1\" AS \"bt_col1\", \"bt_col2\" AS \"bt_col2\", \"coll\" AS \"coll\", \"bool\" AS \"bool\", \"dfgh\" AS \"dfgh\", \"dai\" AS \"dai\", \"b1\" AS \"b1\", \"b2\" AS \"b2\", \"ct_col1\" AS \"ct_col1\", \"id\" AS \"id\", \"col2\" AS \"col2\", \"col1\" AS \"col1\", \"ct_col6\" AS \"ct_col6\", \"a\" AS \"a\", \"ct_col7\" AS \"ct_col7\", \"b\" AS \"b\", \"ct_col8\" AS \"ct_col8\", \"c\" AS \"c\", \"ct_col9\" AS \"ct_col9\", \"set\" AS \"set\", \"ct_col2\" AS \"ct_col2\", \"d\" AS \"d\", \"ct_col3\" AS \"ct_col3\", \"ct_col4\" AS \"ct_col4\", \"ct_col5\" AS \"ct_col5\", \"m\" AS \"m\", \"a1\" AS \"a1\", \"dfga\" AS \"dfga\", \"bt_col31\" AS \"bt_col31\", \"bt_col11\" AS \"bt_col11\", \"vbg\" AS \"vbg\", \"da\" AS \"da\", \"bt_col3\" AS \"bt_col3\", \"bt_col4\" AS \"bt_col4\" FROM \"public\".\"dws_all_char_type\" WHERE \"a\" = 1 limit 100 offset 0\\n\\n\",
    "in_flow_size": 14051,
    "out_flow_size": 416,
    "out_total_size": 5
  } ],
  "number": 1
}
```

Status Codes

Status Code	Description
200	The query is successful.

Status Code	Description
400	Bad request.

9.9.5 Enabling Log Dump to OBS for a DataArts DataService Cluster

Function

This API is used to enable the logs of a DataArts DataService cluster to be dumped to OBS.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1/{project_id}/service/instances/{instance_id}/obs-log-dump

Table 9-340 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
instance_id	Yes	String	Cluster ID

Request Parameters

Table 9-341 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.

Parameter	Mandatory	Type	Description
workspace	Yes	String	Workspace ID. For details about how to obtain it, see Instance ID and Workspace ID .
Dlm-Type	No	String	Edition of the DataArts DataService. The value can be SHARED or EXCLUSIVE .
Content-Type	No	String	Type (format) of the message body. This parameter is mandatory when there is a body. If the request body contains Chinese characters, use <code>charset=utf8</code> to specify the Chinese character set, for example, application/json; charset=utf8 .

Table 9-342 Request body parameters

Parameter	Mandatory	Type	Description
log_dump	No	Boolean	Whether to enable log dump to OBS. Value true indicates that it is enabled, and value false indicates that it is disabled.

Response Parameters

Status code: 400

Table 9-343 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Enable the logs of the cluster whose ID is **4f9366ce3e87860934c36d0ac027ad6a** to be dumped to OBS.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/instances/4f9366ce3e87860934c36d0ac027ad6a/obs-log-dump
```

```
{  
  "log_dump" : true  
}
```

Example Responses

None

Status Codes

Status Code	Description
204	Success
400	Bad request.

9.9.6 Enabling Log Dump to LTS for a DataArts DataService Cluster

Function

This API is used to enable the logs of a DataArts DataService cluster to be dumped to LTS.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v1/{project_id}/service/instances/{instance_id}/lts-log-dump

Table 9-344 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Project ID and Account ID .
instance_id	Yes	String	Cluster ID

Request Parameters

Table 9-345 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. This parameter is mandatory when token authentication is used. You can obtain it from the value of X-Subject-Token in the response message header returned by the "Obtaining a User Token" API of the IAM service.
workspace	Yes	String	Workspace ID. For details about how to obtain it, see Instance ID and Workspace ID .
Dlm-Type	No	String	Edition of the DataArts DataService. The value can be SHARED or EXCLUSIVE .
Content-Type	No	String	Type (format) of the message body. This parameter is mandatory when there is a body. If the request body contains Chinese characters, use <code>charset=utf8</code> to specify the Chinese character set, for example, application/json; charset=utf8 .

Table 9-346 Request body parameters

Parameter	Mandatory	Type	Description
log_dump	No	Boolean	Whether to enable log dump to LTS. Value true indicates that it is enabled, and value false indicates that it is disabled.
log_group_id	No	String	Log group ID
log_group_name	No	String	Log group name
log_stream_id	No	String	Log stream ID

Parameter	Mandatory	Type	Description
log_stream_name	No	String	Log stream name

Response Parameters

Status code: 400

Table 9-347 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Enable the logs of the cluster whose ID is **4f9366ce3e87860934c36d0ac027ad6a** to be dumped to LTS.

```
/v1/0833a5737480d53b2f250010d01a7b88/service/instances/4f9366ce3e87860934c36d0ac027ad6a/lts-log-dump
{
  "log_dump" : true,
  "log_group_id" : "086d4d0b-89dc-468b-b0ff-37775d230eb6",
  "log_group_name" : "lts-group-mchuang",
  "log_stream_id" : "c4422c49-80d6-4825-bdf3-0bdf07ac564f",
  "log_stream_name" : "lts-topic-nc"
}
```

Example Responses

None

Status Codes

Status Code	Description
204	Success
400	Bad request.

10 Application Cases

10.1 Example of Using DataArts Migration APIs

This section describes how to use cURL to call CDM APIs to migrate data from a local MySQL database to DWS in the cloud.

1. **Obtaining a Token**

Call the API to obtain the user token, which will be put into the request header for authentication in a subsequent request.

2. **Creating a CDM Cluster**

- If you have created a CDM cluster, skip this step and directly use the ID of the created cluster.
- If you want to use a new cluster for migration, call the API in **Creating a Cluster** to create a CDM cluster.

3. **Creating Links**

Call the API in **Creating a Link** to create the MySQL and DWS links.

4. **Creating a Migration Job**

Call the API in **Creating a Job in a Specified Cluster** to create a job for migrating data from MySQL to DWS.

5. **Viewing Job Result**

Call the API in **Starting a Job** to execute the job.

Preparing Data

Before calling an API, prepare the following data.

Table 10-1 Preparing data

Item	Name	Description	Example
Account information	Project name	Name of the project where CDM resides	Project Name

Item	Name	Description	Example
	Project ID	ID of the project where CDM resides	1551c7f6c808414d8e9f3c514a170f2e
	Account name	Name of an enterprise account to which a user belongs	Account Name
	Username	Username for using a cloud service. The user must have operation permissions on CDM.	Username
	Password	User password	password
VPC information	VPC ID	The VPC where CDM resides must be the same as that of DWS.	6b47302a-bf79-4b20-bf7a-80987408e196
	Subnet ID	The subnet where CDM resides must be the same as that of DWS.	63bdc3cb-a4e7-486f-82ee-d9bf208c8f8c
	Security group ID	The security group where CDM resides must be the same as that of DWS.	005af77a-cce5-45ac-99c7-2ea50ea8addf
Endpoint	IAM endpoint	An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. You can obtain endpoints from Regions and Endpoints .	iam_endpoint
	CDM endpoint	An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. You can obtain endpoints of the service from Endpoints .	cdm_endpoint

Item	Name	Description	Example
MySQL database	IP address	IP address of the local MySQL database, which allows CDM to access the MySQL database using a public IP address	1xx.120.85.24
	Port	MySQL database port	3306
	Database name	Name of the MySQL database from which data is to be exported	DB_name
	Username	Username for accessing the MySQL database. The user must have the read, write, and delete permissions on the MySQL database.	username
	Password	Password for accessing the MySQL database	DB_password
DWS database	IP address	IP address of the DWS database. CDM can access the IP address through the internal network.	10.120.85.24
	Port	DWS database port	3306
	Database name	Name of the DWS database to which data is written	DWS
	Username	Username for accessing the DWS database. The user must have the read, write, and delete permissions on the DWS database.	user_dws
	Password	Password for accessing the DWS database	dws_password

Obtaining a Token

1. Before calling other APIs, obtain the token and set it as an environment variable.

```
curl -H "Content-Type:application/json" https://{iam_endpoint}/v3/auth/tokens -X POST -d '{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "Username",
          "password": "password",
          "domain": {
            "name": "Account Name"
          }
        }
      }
    },
    "scope": {
      "project": {
        "id": "1551c7f6c808414d8e9f3c514a170f2e"
      }
    }
  }
}' -v -k
```

The value of **X-Subject-Token** in the response header is the token.

```
X-Subject-Token:MIIDkgYJKoZIhvcNAQcCoIIDgzCCA38CAQExDTALBglghkgBZQMEAgEwgXXXXX...
```

2. Run the following command to set the token as an environment variable for future use:

```
export Token = MIIDkgYJKoZIhvcNAQcCoIIDgzCCA38CAQExDTALBglghkgBZQMEAgEwgXXXXX...
```

Creating a CDM Cluster

1. Call the API in [Creating a Cluster](#) to create a cluster. The following values are examples:
 - Cluster name: **cdm-ab82**
 - Cluster flavor: **cdm.medium**
 - The VPC, subnet, and security group are the same as those of DWS, and the EIP is automatically bound.

If status code **200** is returned, the cluster is successfully created.

```
curl -X POST -H 'Content-Type:application/json;charset=utf-8' -H "X-Auth-Token:$Token" -d '{
  "cluster": {
    "name": "cdm-ab82",
    "vpclid": "6b47302a-bf79-4b20-bf7a-80987408e196",
    "instances": [{
      "flavorRef": "fb8fe666-6734-4b11-bc6c-43d11db3c745",
      "nics": [{
        "net-id": "63bdc3cb-a4e7-486f-82ee-d9bf208c8f8c",
        "securityGroupid": "005af77a-cce5-45ac-99c7-2ea50ea8addf"
      }],
      "availability_zone": "Project Name",
      "type": "cdm"
    }],
    "datastore": {
      "version": "1.8.5",
      "type": "cdm"
    },
    "isScheduleBootOff": false,
    "scheduleBootTime": "null",
    "scheduleOffTime": "null",
    "isAutoOff": false,
    "sys_tags": [{
```

```
    "key": "_sys_enterprise_project_id",
    "value": "1ce45885-4033-40d2-bdde-d4dbaceb387d"
  }
},
"autoRemind": false,
"phoneNum": "null",
"email": "null"
}
https://{cdm_endpoint}/v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters -v -k
```

2. Call the API in [Querying the Cluster List](#) to query cluster information, obtain the cluster ID, and set the cluster ID to a global variable.

```
curl -X GET -H 'Content-Type:application/json;charset=utf-8' -H "X-Auth-Token:$Token" https://{cdm_endpoint}/v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters -k -v
```

The response is as follows:

```
{
  "clusters": [{
    "version": "x.x.x",
    "updated": "2018-09-05T08:38:25",
    "name": "cdm-ab82",
    "created": "2018-09-05T08:38:25",
    "id": "bae65496-643e-47ca-84af-948672de7eeb",
    "status": "200",
    "isFrozen": "0",
    "statusDetail": "Normal",
    "actionProgress": {},
    "config_status": "In-Sync"
  }
]}
```

If the value of **status** is **200**, the cluster is successfully created. The cluster ID is **bae65496-643e-47ca-84af-948672de7eeb**.

3. Run the following command to set the cluster ID to a global variable for future use:

```
export ID = bae65496-643e-47ca-84af-948672de7eeb
```

Creating Links

1. Call the API in [Creating a Link](#) to create the MySQL link **mysql_link**. The following values are examples:

- IP address: **1xx.120.85.24**
- Port number: **3306**
- Database name: **DB_name**
- Login username: *username*
- Password: **DB_password**

If status code **200** is returned, the link is successfully created.

```
curl -X POST -H "Content-Type:application/json" -H "X-Auth-Token:$Token" -d '{
  "links": [{
    "enabled": true,
    "update-user": null,
    "name": "mysql_link",
    "link-config-values": {
      "configs": [
        {
          "name": "linkConfig",
          "inputs": [
            {
              "name": "linkConfig.databaseType",
              "value": "MYSQL"
            }
          ]
        }
      ]
    }
  }
}
```

```
        "name": "linkConfig.host",
        "value": "1xx.120.85.24"
    },
    {
        "name": "linkConfig.port",
        "value": "3306"
    },
    {
        "name": "linkConfig.database",
        "value": "DB_name"
    },
    {
        "name": "linkConfig.username",
        "value": "username"
    },
    {
        "name": "linkConfig.password",
        "value": "DB_password"
    },
    {
        "name": "linkConfig.fetchSize",
        "value": "100000"
    },
    {
        "name": "linkConfig.usingNative",
        "value": "true"
    }
    ]
}
},
"connector-name": "generic-jdbc-connector",
"creation-date": 1536654788622,
"update-date": 1536654788622,
"creation-user": null
}]
}'
https://{cdm_endpoint}/v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/
bae65496-643e-47ca-84af-948672de7eeb/cdm/link -k -v
```

2. Call the API in [Creating a Link](#) to create the DWS link **dws_link**. The following values are examples:

- IP address of the database: **10.120.85.24**
- Port number: **3306**
- Database name: **DWS**
- Login username: **user_dws**
- Password: **dws_password**

```
curl -X POST -H "Content-Type:application/json" -H "X-Auth-Token:$Token" -d '{
  "links": [{
    "enabled": true,
    "update-user": null,
    "name": "dws_link",
    "link-config-values": {
      "configs": [
        {
          "name": "linkConfig",
          "inputs": [
            {
              "name": "linkConfig.databaseType",
              "value": "DWS"
            },
            {
              "name": "linkConfig.host",
              "value": "10.120.85.24"
            }
          ]
        }
      ]
    }
  ]
}
```

```
        "name": "linkConfig.port",
        "value": "3306"
      },
      {
        "name": "linkConfig.database",
        "value": "DWS"
      },
      {
        "name": "linkConfig.username",
        "value": "user_dws"
      },
      {
        "name": "linkConfig.password",
        "value": "dws_password"
      },
      {
        "name": "linkConfig.fetchSize",
        "value": "100000"
      },
      {
        "name": "linkConfig.usingNative",
        "value": "true"
      }
    ]
  },
  "connector-name": "generic-jdbc-connector",
  "creation-date": 1536654788622,
  "update-date": 1536654788622,
  "creation-user": null
}]
}
```

`https://{cdm_endpoint}/v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/bae65496-643e-47ca-84af-948672de7eeb/cdm/link -k -v`

Creating a Migration Job

1. After the links are created, call the API in [Creating a Job in a Specified Cluster](#) to create a migration job. The following is a sample job:
 - The job name is **mysql2dws**.
 - The name of the MySQL database from which data is exported is **default**, and the name of the exported table is **mysql_tbl**. The job is split into multiple tasks by **id** and the tasks are executed concurrently.
 - The name of the database on DWS to which the data is imported is **public**, and the table name is **cdm_all_type**. Do not clear the data in the table before import.
 - If no table in the local MySQL database exists in the database on DWS, CDM automatically creates the table on DWS.
 - The field list loaded to DWS is **id&gid&name**.
 - When the job extracts data, three extractors are concurrently executed.

If status code **200** is returned, the job is successfully created.

```
curl -X POST -H "Content-Type:application/json" -H "X-Cluster-ID:$ID" -H "X-Auth-Token:$Token" -d '{
  "jobs": [{
    "job_type": "NORMAL_JOB",
    "name": "mysql2dws",
    "from-link-name": "mysql_link",
    "from-connector-name": "generic-jdbc-connector",
    "to-link-name": "dws_link",
    "to-connector-name": "generic-jdbc-connector",
    "from-config-values": {
```



```
"configs": [{
  "name": "fromJobConfig",
  "inputs": [{
    "name": "fromJobConfig.schemaName",
    "value": "default"
  }],
  {
    "name": "fromJobConfig.tableName",
    "value": "mysql_tbl"
  },
  {
    "name": "fromJobConfig.partitionColumn",
    "value": "id"
  }
}]
},
"to-config-values": {
  "configs": [
    {
      "inputs": [
        {
          "name": "toJobConfig.schemaName",
          "value": "public"
        },
        {
          "name": "toJobConfig.tablePreparation",
          "value": "CREATE_WHEN_NOT_EXIST"
        },
        {
          "name": "toJobConfig.tableName",
          "value": "cdm_all_type"
        },
        {
          "name": "toJobConfig.columnList",
          "value": "id&gid&name"
        },
        {
          "name": "toJobConfig.shouldClearTable",
          "value": "false"
        }
      ]
    },
    {
      "name": "toJobConfig"
    }
  ]
},
"driver-config-values": {
  "configs": [{
    "name": "throttlingConfig",
    "inputs": [{
      "name": "throttlingConfig.numExtractors",
      "value": "3"
    }]
  }]
}
}
}
}
} https://{cdm_endpoint}/v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/
bae65496-643e-47ca-84af-948672de7eeb/cdm/job -k -v
```

2. Call the API in [Starting a Job](#) to execute the job.

```
curl -X GET -H 'Content-Type:application/json;charset=utf-8' -H "X-Cluster-ID:$ID" -H "X-Auth-Token:$Token" https://{cdm_endpoint}/v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/
bae65496-643e-47ca-84af-948672de7eeb/cdm/job/mysql2dws/start -k -v
```

The response is as follows:

```
{
  "submissions": [{
    "progress": 1,
    "job-name": "mysql2dws",
    "status": "BOOTING",
    "creation-date": 1536654788622,
```

```
"creation-user": "cdm"  
  }  
}
```

Viewing Job Result

1. Call the API in [Querying Job Status](#) to query the job status.
`curl -X GET -H 'Content-Type:application/json;charset=utf-8' -H "X-Cluster-ID:$ID" -H "X-Auth-Token:$Token" https://{cdm_endpoint}/v1.1/1551c7f6c808414d8e9f3c514a170f2e/clusters/6ec9a0a4-76be-4262-8697-e7af1fac7920/cdm/job/mysql2dws/status -k -v`
2. View the job execution result. The response to successful job execution is as follows:

```
{  
  "submissions": [{  
    "progress": 0,  
    "job-name": "mysql2dws",  
    "status": "SUCCEEDED",  
    "creation-date": 1536654788622,  
    "creation-user": "cdm",  
    "isStoppingIncrement": "",  
    "last-update-date": 1536654888622,  
    "is-execute-auto": false,  
    "last-update-user": "cdm",  
    "isDeleteJob": false,  
    "isIncrementing": false,  
    "external-id": "job_local1127970451_0009",  
    "counters": {  
      "org.apache.sqoop.submission.counter.SqoopCounters": {  
        "BYTES_WRITTEN": -1,  
        "TOTAL_FILES": -1,  
        "BYTES_READ": -1,  
        "FILES_WRITTEN": -1,  
        "TOTAL_SIZE": -1,  
        "FILES_READ": -1,  
        "ROWS_WRITTEN": 80,  
        "ROWS_READ": 80  
      }  
    }  
  }  
}]  
}
```

NOTE

- **BYTES_WRITTEN**: number of written bytes
- **BYTES_READ**: number of read bytes
- **TOTAL_FILES**: total number of files
- **FILES_WRITTEN**: number of written files
- **FILES_READ**: number of read files
- **ROWS_WRITTEN**: number of rows that are successfully written
- **ROWS_READ**: number of rows that are successfully read

10.2 Example of Using DataArts Factory APIs

Scenarios

DataArts Studio helps enterprises quickly build an end-to-end intelligent data system that covers the entire process from data ingestion to data analytics. The system can eliminate data silos, unify data standards, accelerate data monetization, and promote digital transformation.

The following describes how to create a script by calling the [Creating a Script](#) API. For details, see [Calling APIs](#).

Prerequisites

You have planned the region where Data Development is located and determined the endpoint for calling an API based on the region.

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. You can obtain endpoints of the service from [Endpoints](#).

Creating a Shell Script

The following is an example of creating a shell script:

```
{
  "name": "echoTimeShell",
  "type": "Shell",
  "content": "echo a",
  "connectionName": "con"
}
```

- **name** indicates a custom script name, for example, **echoTimeShell**.
- **type** indicates the type of the script.
- **content** indicates the script content.
- **connectionName** indicates the name of the data connection associated with the script.

Creating a DLI SQL Script

You can also create a DLI SQL script. The following is an example:

```
{
  "name": "dliSql1",
  "type": "DLISQL",
  "content": "show tables",
  "connectionName": "dliCon1",
  "database": "testDatabase1",
  "queueName": "queue1"
}
```

- **name** indicates a custom script name, for example, **dliSql1**.
- **type** indicates the type of the script.
- **content** indicates the script content.
- **connectionName** indicates the name of the data connection associated with the script.
- **database** indicates the name of the associated database when the script is executed.
- **queueName** indicates the name of the queue running on DLI when the SQL statement is executed.

11 Appendix

11.1 Common Message Headers

Common request header fields

[Table 11-1](#) describes common request headers.

Table 11-1 Common request header fields

Field	Description	Mandatory	Example
Content-Type	Request body type or format. Its default value is application/json .	Yes	application/json
Content-Length	Specifies the length of the request body. The unit is byte.	No	3495
X-Language	Request language	No	en_us
X-Auth-Token	Specifies a user token. The user token is the value returned by the API used to obtain a user token . This API is the only API that does not require authentication. The token is the value of X-Subject-Token in the response header.	This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZlhvc-NAQcCo...ggg1BBI INPXsidG9rZ

Field	Description	Mandatory	Example
Authorization	Authentication information. When AK/SK authentication is enabled, this field is automatically specified when SDK is used to sign the request.	This field is mandatory for AK/SK-based authentication.	None
X-Sdk-Date	Time when the request is sent. The format is YYYYMMDD'T'HHMMSS'Z'. The value is the current GMT time of the system. When AK/SK authentication is enabled, this field is automatically specified when SDK is used to sign the request.	This field is mandatory for AK/SK-based authentication.	20150907T101459Z
Host	Specifies the server domain name and port number of the resources being requested. The value can be obtained from the URL of the service API. The value is in the format of <i>hostname[:port]</i> . If the port number is not specified, the default port is used. The default port number for HTTPS is 443.	This field is mandatory for AK/SK-based authentication.	code.test.com or code.test.com:443
X-Project-Id	Subproject ID. Obtain the project ID by following the instructions in Project ID and Account ID .	This field is mandatory for calling service APIs that use AK/SK authentication in subprojects.	e9993fc787d94b6c886cbaa340f9c0f4
X-Domain-ID	Domain ID. Obtain the domain ID by following the instructions in Project ID and Account ID .	This field is mandatory for calling global APIs that use AK/SK authentication.	0a2f5e28af00f3850f31c00f31e884e0

Field	Description	Mandatory	Example
workspace	Workspace ID. For details about how to obtain it, see Instance ID and Workspace ID .	<ul style="list-style-type: none"> You do not need to set this field when calling a CDM or DIS API. This field is mandatory when there are multiple DataArts Studio instances during a call to a DataArts Factory API. This field is optional when there is only one DataArts instance. This field is optional when there is only one DataArts Studio instance. If this field is not specified, data in the default workspace is queried by default. To query data in other workspaces, include this field in the request header. This header is mandatory for calling the APIs of other modules. Otherwise, API calls will fail. 	d1cd7861478748a6925bc02f47c69279
X-Dlm-Type	DataArts DataService edition, which is Exclusive	This parameter is mandatory for calling DataArts DataService APIs.	EXCLUSIVE: exclusive edition

Common response headers

[Table 11-2](#) describes common response headers.

Table 11-2 Common response headers

Parameter	Description
Content-Length	Length of the response body. The unit is byte.
Date	Time when a response is returned
Content-type	Request body MIME type

11.2 Parsing a Stream in a Response Message

The response messages of the job export API and connection export API are streams that need to be converted to files.

For details, see the following sample code:

```
String EXPORT_JOB_URL = "https://{endpoint}/v1/{project_id}/jobs/{job_name}/export";

try (CloseableHttpClient httpClient = HttpClients.createDefault()) {
    HttpPost httpPost = new HttpPost(EXPORT_JOB_URL);
    httpPost.setHeader("Content-Type", "application/json; charset=UTF-8");
    httpPost.setHeader("Accept", "application/octet-stream");
    httpPost.setHeader("X-Auth-Token", token);

    HttpResponse response = httpClient.execute(httpPost);
    int statusCode = response.getStatusLine().getStatusCode();
    if (statusCode == 200) {
        String filePath = "d:";
        String fileName = "job.zip";
        FileOutputStream fileOutputStream = new FileOutputStream(filePath + fileName);
        response.getEntity().writeTo(fileOutputStream);
    } else {
        System.out.println(statusCode);
    }
}
```

11.3 Status Codes

A status code consists of three digits. The first digit defines the class of a response. There are five values for the first digit:

- 1xx: indication information, indicating that the request has been received and can be further processed.
- 2xx: success, indicating that the request has been received, understood, and accepted.
- 3xx: redirection, indicating that the request requires further operations before it can be completed.
- 4xx: client error, indicating that there is a syntax error in the request or the request cannot be implemented.

- 5xx: server error, indicating that the server has failed to implement a valid request.

Table 11-3 describes status codes.

Table 11-3 Status codes

Status Code	Message	Description
100	Continue	The client should continue with its request. This interim response is used to inform the client that part of the request has been received and has not yet been rejected by the server.
101	Switching Protocols	The protocol should be switched. The protocol can only be switched to a newer protocol. For example, the current HTTP protocol is switched to a later version of HTTP.
200	OK	The request has been fulfilled.
201	Created	The request has been fulfilled and a new resource has been created.
202	Accepted	The request has been accepted, but the processing has not been completed.
203	Non-Authoritative Information	The server has successfully processed the request, but is returning information that may be from another source.
204	NoContent	The request has been fulfilled, but the HTTP response does not contain a response body. The status code is returned in response to an HTTPS OPTIONS request.
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has successfully processed the partial GET request.
300	Multiple Choices	There are multiple options for the location of the requested resource. The response contains a list of resource characteristics and addresses from which the user or user agent (such as a browser) can choose the most appropriate one.
301	Moved Permanently	The requested resource has been assigned a new permanent URI, and the new URI is contained in the response.

Status Code	Message	Description
302	Found	The requested resource resides temporarily under a different URI.
303	See Other	The response to the request can be found under a different URI, and should be retrieved using a GET or POST method.
304	Not Modified	The requested resource has not been modified. When the server returns this status code, it does not return any resources.
305	Use Proxy	The requested resource is available only through a proxy.
306	Unused	The HTTP status code is no longer used.
400	BadRequest	The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized	This status code is returned after the client provides the authentication information, indicating that the authentication information is incorrect or invalid.
402	Payment Required	This status code is reserved for future use.
403	Forbidden	The server understood the request, but is refusing to fulfill it. The client should not repeat the request without modifications.
404	NotFound	The requested resource cannot be found. The client should not repeat the request without modifications.
405	MethodNotAllowed	The method specified in the request is not supported for the requested resource. The client should not repeat the request without modifications.
406	Not Acceptable	The server cannot fulfill the request according to the content characteristics of the request.
407	Proxy Authentication Required	This status code is similar to 401, but indicates that the client must first authenticate itself with the proxy.

Status Code	Message	Description
408	Request Time-out	The server has timed out waiting for the request. The client may repeat the request without modifications at a later time.
409	Conflict	The request could not be processed due to a conflict with the current state of the resource. This status code indicates that the resource that the client is attempting to create already exists, or that the request has failed to be processed because of the update of the conflict request.
410	Gone	The requested resource has been deleted permanently and is no longer available.
411	Length Required	The server is refusing to process the request without a defined Content-Length .
412	Precondition Failed	The server did not meet one of the preconditions that the requester put on the request.
413	Request Entity Too Large	The server is refusing to process a request because the request entity is too large for the server to process. The server may close the connection to prevent the client from continuing the request. If the server is only temporarily unable to process the request, the response will contain a Retry-After header field.
414	Request-URI Too Large	The Request-URI is too long for the server to process.
415	Unsupported Media Type	The server is unable to process the media format in the request.
416	Requested range not satisfiable	The requested range is invalid.
417	Expectation Failed	The server has failed to meet the requirements of the Expect request-header field.
422	UnprocessableEntity	The request is well-formed but cannot be processed due to semantic errors.

Status Code	Message	Description
429	TooManyRequests	The client has sent excessive number of requests to the server within a given time (exceeding the limit on the access frequency of the client), or the server has received an excessive number of requests within a given time (beyond its processing capability). In this case, the client should resend the request after the time specified in the Retry-After header of the response has elapsed.
500	InternalServerError	The server is able to receive the request but unable to understand it.
501	Not Implemented	The server does not support the function required to fulfill the request.
502	Bad Gateway	The server was acting as a gateway or proxy and received an invalid request from the remote server.
503	ServiceUnavailable	The requested service is invalid. The client should not repeat the request without modifications.
504	ServerTimeout	The request cannot be fulfilled within a given time. This status code is returned to the client only if the Timeout parameter is specified in the request.
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

11.4 Error Codes

11.4.1 DataArts Migration Error Codes

If an error occurs in API calling, no result is returned. Identify the error cause based on the error codes of each API. If an error occurs in API calling, HTTP status code 4xx or 5xx is returned. The response body contains the specific error code and information. If you are unable to identify the cause of an error, contact customer service and provide the error code so that we can help you solve the problem as soon as possible.

- Sample exception response

```
{
  "errCode": "Cdm.0100",
  "externalMessage": "Job[jdbc2hive] doesn't exist."
}
```
- Parameter description

Parameter	Mandatory	Type	Description
errCode	No	String	Error code
externalMessage	No	String	Error message

- Error code

In the following error message, *%s* is a variable. In the actual situation, the parameter name, table name, job name, and link name are replaced with the actual values.

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in [Error Codes](#).

Error Code	Status Code	Error	Description	Solution
Cdm.0000	400	System error.	A system error occurs.	Contact customer service or technical support.
Cdm.0001	400	The resource does not exist or is invalid.	The requested resource does not exist or you have no permission to access the resource.	Contact customer service or technical support.
Cdm.0004	400	Invalid parameter type.	The input parameter does not match the parameter type.	Change the parameter value based on the error message and try again.
Cdm.0009	400	<i>%s</i> is not an integer or is beyond the value range [0, 2147483647].	The input parameter is not an integer or is beyond the value range.	Change the parameter value based on the error message and try again.
Cdm.0010	400	The integer must be within the range of [<i>%s</i>].	The parameter is missing or its length is 0 .	Change the parameter value based on the error message and try again.

Error Code	Status Code	Error	Description	Solution
Cdm.0011	400	The parameter value exceeds the value range.	The parameter format is incorrect or the parameter value exceeds the value range. As a result, the parsing failed.	Check whether the parameter value is valid based on the error message. If it is not, correct it and try again.
Cdm.0012	400	JDBC driver is not found.	JDBC driver is not found.	Contact customer service or technical support.
Cdm.0014	400	Invalid parameter.	The parameter is invalid.	Change the parameter value and try again.
Cdm.0015	400	Failed to parse the file.	The file fails to be parsed.	Check whether the content or format of the uploaded file is correct. If it is not, correct it and try again.
Cdm.0016	400	The file to be uploaded cannot be empty.	The uploaded file is empty.	Ensure that the file you uploaded is not empty and try again.
Cdm.0017	400	Failed to save the input value.	The input value cannot be saved.	Contact customer service or technical support.
Cdm.0018	400	The content of jobs or links is invalid.	The content of jobs or links is invalid.	Contact customer service or technical support.
Cdm.0019	400	Failed to delete the link from the database.	The link in the database fails to be deleted.	Try again later or contact customer service or technical support.
Cdm.0020	400	The string must contain the following substring: %s.	The verified parameter is empty or does not contain the specified substring.	Change the parameter value based on the error message and try again.

Error Code	Status Code	Error	Description	Solution
Cdm.0021	400	Failed to connect to server %s.	The server fails to be connected.	Contact customer service or technical support.
Cdm.0024	400	[%s] must be within the range of [%s].	The verified parameter is not in the specified value range.	Change the parameter value based on the error message and try again.
Cdm.0031	400	Failed to create data to be submitted.	Failed to create data to be submitted.	Contact customer service or technical support.
Cdm.0032	400	You do not have required permissions. Check your permissions on IAM.	Insufficient permissions	CDM console: Obtain required permissions by referring to Permissions Management . DataArts Studio console: Obtain required permissions by referring to Permission Management .
Cdm.0036	400	Internal error.	An internal error occurred. The displayed error message may vary. Contact the customer service or technical support based on the error message (for example, "Internal error: null pointer exception").	Contact customer service or technical support.
Cdm.0037	400	Failed to submit the job.	The job fails to be submitted.	Contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.0051	400	Invalid submission engine: %s.	Invalid job engine name.	Specify a correct job engine and try again.
Cdm.0052	400	Job %s is running.	The job is running.	The operation cannot be performed because the job is running. Try again after the job completes.
Cdm.0053	400	Job %s is not running.	The job is not running.	Run the job and try again.
Cdm.0054	400	Job %s does not exist.	The job does not exist.	Check whether the job exists.
Cdm.0055	400	Unsupported job type.	Unsupported job type.	Configure a supported job type.
Cdm.0056	400	Failed to submit the job. Cause: %s.	The job fails to be submitted.	Locate the cause based on the error message, rectify the fault, and try again.
Cdm.0057	400	Invalid job execution engine: %s.	The job engine is invalid.	Specify a correct job engine and try again.
Cdm.0058	400	Invalid combination of submission and execution engines.	The combination of submission and execution engines is invalid.	Specify a correct job engine and try again.
Cdm.0059	400	Job %s has been disabled and cannot be submitted.	The job has been disabled and cannot be submitted.	Create a job and try again. Alternatively, contact customer service or technical support.
Cdm.0060	400	Link %s for this job has been disabled. The job cannot be submitted.	The link for this job has been disabled.	Change the link and submit the job again.

Error Code	Status Code	Error	Description	Solution
Cdm.0061	400	Connector <i>%s</i> does not support the specified direction. The job cannot be submitted.	The connector cannot be used as the source or destination of a job.	The connector cannot be used as the source or destination of a job. Change the connector and submit the job again.
Cdm.0062	400	The binary file is applicable only to the SFTP, FTP, HDFS, or OBS connector.	The connector is invalid.	Specify a correct connector and try again.
Cdm.0063	400	An error occurred when creating the table. Cause: <i>%s</i> .	The table fails to be created.	Locate the cause based on the error message, rectify the fault, and try again.
Cdm.0064	400	Incorrect data format.	The data format is incorrect.	Check whether the data format is correct based on the error message. If it is not, correct it and try again.
Cdm.0065	400	Failed to start the timer. Cause: <i>%s</i> .	The timer fails to be started.	Contact customer service or technical support.
Cdm.0066	400	Failed to obtain the sample value. Cause: <i>%s</i> .	The sample value fails to be obtained.	Contact customer service or technical support.
Cdm.0067	400	Failed to obtain the schema. Cause: <i>%s</i> .	The schema field fails to be obtained.	Contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.0085	400	<i>%s</i> exceeds the maximum value <i>%s</i> .	The parameter value exceeds the maximum value.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0089	400	The configuration item [<i>%s</i>] does not exist.	The configuration item does not exist.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0100	400	Job [<i>%s</i>] does not exist.	The job does not exist.	Specify a correct job and try again.
Cdm.0101	400	Link [<i>%s</i>] does not exist.	The link does not exist.	Specify a correct link and try again.
Cdm.0102	400	Connector [<i>%s</i>] does not exist.	The connector does not exist.	Specify a correct connector and try again.
Cdm.0104	400	The job name already exists.	The job name already exists.	Rename the job and try again.
Cdm.0201	400	Failed to obtain the instance.	The instance fails to be obtained.	Contact customer service or technical support.
Cdm.0202	400	Unknown status.	The job status is unknown.	Try again later or contact customer service or technical support.
Cdm.0204	400	No MRS link available.	No MRS link is created.	Go to the Links page to create an MRS link and try again.
Cdm.0230	400	Failed to load the specified class: <i>%s</i> .	The class fails to be loaded.	Contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.0231	400	Failed to initialize the specified class: %s.	The class fails to be initialized.	Contact customer service or technical support.
Cdm.0232	400	Failed to write data. Cause: %s.	Data fails to be written.	Contact customer service or technical support.
Cdm.0233	400	Data extraction exception. Cause: %s.	An exception occurs during data extraction.	Contact customer service or technical support.
Cdm.0234	400	Data loading exception. Cause: %s.	An exception occurs during data loading.	Contact customer service or technical support.
Cdm.0235	400	All data has been used up. Cause: %s.	All data has been used up.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0236	400	Invalid partitions have been retrieved from Partitioner.	Invalid partitions have been retrieved from Partitioner.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0238	400	%s cannot be left blank.	The parameter is invalid.	Change the parameter value based on the error message and try again.
Cdm.0240	400	Failed to obtain the status of file %s.	The file status fails to be obtained.	Contact customer service or technical support.
Cdm.0241	400	Failed to obtain the type of file %s.	The file type fails to be obtained.	Contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.0242	400	File check exception: %s.	An exception occurs during file check.	Contact customer service or technical support.
Cdm.0243	400	Failed to rename %s to %s.	Rename failed.	Rename the job and try again.
Cdm.0244	400	Failed to create file %s.	The file fails to be created.	Check whether you have the permissions or try again later. If the fault persists, contact customer service or technical support.
Cdm.0245	400	Failed to delete file %s.	The file fails to be deleted.	Check whether you have the permissions or try again later. If the fault persists, contact customer service or technical support.
Cdm.0246	400	Failed to create directory %s.	The directory fails to be created.	Check whether you have the permissions or try again later. If the fault persists, contact customer service or technical support.
Cdm.0247	400	HBase operation failed. Cause: %s.	HBase operation failed.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.0248	400	Failed to clear data %s. Cause: %s.	Data fails to be cleared.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0249	400	Invalid file name %s.	The file name is invalid.	Change the file name and try again.
Cdm.0250	400	Failed to perform operations on path %s.	Operations on path %s are not allowed.	Check whether you have the permissions or try again later. If the fault persists, contact customer service or technical support.
Cdm.0251	400	Failed to load data to HBase. Cause: %s.	Data fails to be uploaded to HBase.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0307	400	Failed to obtain the connection lease of the requested transaction. Cause: %s.	The connection lease for the requested transaction fails to be obtained.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0315	400	Link name %s already exists.	The link already exists.	Specify another link name and try again.
Cdm.0316	400	Failed to update the link that does not exist.	The link that does not exist cannot be updated.	Specify a correct link and try again.
Cdm.0317	400	Invalid link %s.	The link is invalid.	Specify a correct link and try again.

Error Code	Status Code	Error	Description	Solution
Cdm.0318	400	The job already exists and cannot be created repeatedly.	The job already exists.	Specify another job name and try again.
Cdm.0319	400	Failed to update the job that does not exist.	The job that does not exist cannot be updated.	Check whether the job to be updated exists. If it does, change the job name and try again.
Cdm.0320	400	Invalid job %s.	The job is invalid.	Contact customer service or technical support.
Cdm.0321	400	Link %s has been used.	The link has been used.	Release the link and try again.
Cdm.0322	400	Job %s has been used.	The job has been used.	Contact customer service or technical support.
Cdm.0323	400	The submission already exists and cannot be created repeatedly.	The submission already exists.	Try again later.
Cdm.0327	400	Invalid link or job %s.	Link or job %s is invalid.	Specify a correct link or job and try again.
Cdm.0411	400	Failed to connect to the file server.	An error occurs when connecting to the file server.	Contact customer service or technical support.
Cdm.0413	400	Failed to transfer data to the file server.	An error occurs in data transfer to the file server.	Contact customer service or technical support.
Cdm.0415	400	Failed to download files from the server.	An error occurs when downloading files from the file server.	Contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.0416	400	Data extraction failure.	An error occurs when extracting data.	Contact customer service or technical support.
Cdm.0420	400	Source file or source directory unavailable.	The source file or source directory does not exist.	Check whether the source file or source directory exists. If it does not, specify a correct source file or directory and try again.
Cdm.0423	400	Duplicate files exist in the destination path.	Duplicate files exist in the destination path.	Delete duplicate files from the destination path and try again.
Cdm.0467	400	The connection timed out.	The connection timed out.	Check whether the IP address, host name, and port number are correct, and whether the security group and firewall are correctly configured.
Cdm.0501	400	Invalid URI [%s].	The URI is invalid.	Specify a correct URI and try again.
Cdm.0518	400	Failed to connect to HDFS. Cause: %s.	HDFS fails to be connected.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.0600	400	Failed to connect to the FTP server.	The FTP server fails to be connected.	It is possible that the network is disconnected, no security group or firewall rule is configured to allow access, the FTP host name cannot be parsed, or the FTP username or password is incorrect. If the fault persists, contact customer service or technical support.
Cdm.0700	400	Failed to connect to the SFTP server.	The SFTP server fails to be connected.	It is possible that the network is disconnected, no security group or firewall rule is configured to allow access, the SFTP host name cannot be parsed, or the SFTP username or password is incorrect. If the fault persists, contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.0800	400	Failed to connect to the OBS server.	The OBS server fails to be connected.	It is possible that the OBS endpoint is inconsistent with the current region, the AK/SK pair is incorrect, the AK/SK pair is not the one of the current user, or no security group or firewall rule is configured to allow access. If the fault persists, contact customer service or technical support.
Cdm.0801	400	OBS bucket [%s] unavailable.	The OBS bucket does not exist.	The OBS bucket may not exist or is not in the current region. Specify a correct OBS bucket and try again.
Cdm.0831	400	Failed to connect to the KODO server. Cause: %s.	The KODO server fails to be connected.	Contact customer service or technical support.
Cdm.0900	400	Table [%s] unavailable.	The table does not exist.	Specify a correct table name and try again.
Cdm.0901	400	Failed to connect to the database server. Cause: %s.	The database server fails to be connected.	Contact customer service or technical support.
Cdm.0902	400	Failed to execute the SQL statement. Cause: %s.	The SQL statement fails to be executed.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.0903	400	Failed to obtain metadata. Cause: %s.	Metadata fails to be obtained.	Check whether the quote character is correct or whether the database table exists when you create the link. If the fault persists, contact customer service or technical support.
Cdm.0904	400	Failed to retrieve data from the result. Cause: %s.	An error occurs when retrieving data from the result.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0913	400	Schema and SQL cannot be left blank at the same time.	Either Schema or SQL must be specified.	Specify one of them and try again.
Cdm.0916	400	In incremental reading mode, the previous value must be specified.	The previous value is not specified in incremental reading.	Specify the previous value and try again.
Cdm.0917	400	Previous value cannot be obtained without field check.	The field is missing.	Contact customer service or technical support.
Cdm.0921	400	Unsupported type %s.	The type is invalid.	Specify a correct type and try again.
Cdm.0925	400	The partition field contains unsupported values.	The partition field contains unsupported values.	Correct the values and try again.

Error Code	Status Code	Error	Description	Solution
Cdm.0926	400	Failed to obtain the schema field. Cause: %s.	The schema field fails to be obtained.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0927	400	The relay table cannot be empty.	The relay table cannot be empty.	Specify an empty relay table and try again.
Cdm.0928	400	Failed to transfer data from the relay table to the destination table.	An error occurs when transferring data from the relay table to the destination table.	Contact customer service or technical support.
Cdm.0931	400	The value of the schema field [%s] does not match that of the field [%s] in the result set.	The value of the schema field [%s] does not match that of the field [%s] in the result set.	Change the schema value to be the same as that in the result set and try again.
Cdm.0932	400	Failed to find the maximum value of the field.	The maximum value of the field cannot be found.	Contact customer service or technical support.
Cdm.0934	400	Tables with the same name exist in different schemas/catalogs.	Tables with the same name exist in different schemas/catalogs.	Contact customer service or technical support.
Cdm.0936	400	The number of dirty data records reaches the upper limit.	The number of dirty data records reaches the upper limit.	Edit the job and increase the number of dirty data records.
Cdm.0940	400	Precise match of the table name failed.	Precise match of the table name failed.	Specify a correct table name and try again.

Error Code	Status Code	Error	Description	Solution
Cdm.0941	400	Failed to connect to the server. Cause: [%s].	The server fails to be connected.	Check whether the IP address, host name, and port number are correct, and whether the network security group and firewall are correctly configured. Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.0950	400	Failed to connect the authentication information to the database.	The authentication information cannot be connected to the database.	Correct the authentication information and try again.
Cdm.0962	400	The host IP address must be specified.	No host IP address is specified.	Specify the host IP address and try again.
Cdm.0963	400	The host port must be specified.	No host port is specified.	Specify the host port and try again.
Cdm.0964	400	The database must be specified.	No database is specified.	Specify a database and try again.
Cdm.1000	400	Hive table [%s] does not exist.	The Hive table does not exist.	Specify a correct Hive table name and try again.

Error Code	Status Code	Error	Description	Solution
Cdm.1010	400	Invalid URI %s. URI must be null or valid.	The URI is invalid.	Specify a correct URI and try again. Correct URI examples: <ul style="list-style-type: none"> • hdfs://example.com:8020/ • hdfs://example.com/ • file:/// • file:///tmp • file://localhost/tmp
Cdm.1011	400	Failed to connect to Hive. Cause: %s.	Hive fails to be connected.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1100	400	Table [%s] unavailable.	The table does not exist.	Enter a correct table name and try again.
Cdm.1101	400	Failed to obtain the link. Cause: %s.	The link fails to be obtained.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1102	400	Failed to create the table. Cause: %s.	The table fails to be created.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1103	400	No rowkey is set.	No rowkey is set.	Set the rowkey and try again.

Error Code	Status Code	Error	Description	Solution
Cdm.1104	400	Failed to open the table. Cause: %s.	The table fails to be opened.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1105	400	Failed to initialize the job. Cause: %s.	The job fails to be initialized.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1111	400	The table name cannot be empty.	The table name is not specified.	Specify a correct table name and try again.
Cdm.1114	400	Rowkey is empty. Set it in field mapping.	Rowkey is empty.	Fix the error based on the error message.
Cdm.1115	400	Columns is empty. Set it in field mapping.	Columns is empty.	Fix the error based on the error message.
Cdm.1116	400	Duplicate column name. Reset it in the field mapping step.	The column name already exists.	Fix the error based on the error message.
Cdm.1117	400	Failed to check whether the table exists. Cause: %s.	An error occurs when checking whether the table exists.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1118	400	Table %s does not contain the column family %s.	The table does not contain the specified column family.	Specify a column family and try again.

Error Code	Status Code	Error	Description	Solution
Cdm.1120	400	The table contains data. Clear the data or reset the parameter to determine whether to clear the table data before importing the table.	The table contains data. Clear the data or reset the parameter to determine whether to clear the table data before importing the table.	Fix the error based on the error message.
Cdm.1121	400	Failed to close the link. Cause: %s.	The link fails to be closed.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1201	400	Failed to connect to the Redis server. Cause: %s.	The Redis server fails to be connected.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1203	400	Failed to extract data from the Redis server. Cause: %s.	Data fails to be extracted from the Redis server.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1205	400	The prefix of the Redis value cannot be empty.	The prefix of the Redis value cannot be empty.	Delete the whitespace before the Redis prefix and try again.
Cdm.1206	400	The storage type of the Redis value must be string or hash .	The storage type of the Redis value must be string or hash .	Fix the error based on the error message.

Error Code	Status Code	Error	Description	Solution
Cdm.1207	400	When the value storage type is string , Value Delimiter must be specified.	The value storage type is string , but Value Delimiter is not specified.	Specify a value delimiter and try again.
Cdm.1208	400	columnList of Redis must be specified.	columnList of Redis must be specified.	Specify columnList and try again.
Cdm.1209	400	Redis Key Delimiter cannot be empty.	Redis Key Delimiter cannot be empty.	Specify a correct delimiter and try again.
Cdm.1210	400	primaryKeyList of Redis must be specified.	primaryKeyList of Redis is not specified.	Specify primaryKeyList and try again.
Cdm.1211	400	primaryKeyList of Redis must exist in columnList .	primaryKeyList of Redis does not exist in columnList .	Specify primaryKeyList and try again.
Cdm.1213	400	Redis Server Address must be specified.	Redis Server Address is not specified.	Specify Redis Server Address and try again.
Cdm.1301	400	Failed to connect to the MongoDB server. Cause: <i>%s</i> .	The MongoDB server fails to be connected.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1302	400	Failed to extract data from the MongoDB server. Cause: <i>%s</i> .	Data fails to be extracted from the MongoDB server.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.1304	400	The MongoDB server set must be specified.	The MongoDB server set is not specified.	Specify the MongoDB server set and try again.
Cdm.1305	400	Server Address of MongoDB must be specified.	Server Address of MongoDB is not specified.	Specify Server Address and try again.
Cdm.1306	400	The database name of the MongoDB service must be specified.	The database name of the MongoDB service is not specified.	Specify a database and try again.
Cdm.1307	400	serverlist of MongoDB must be specified.	serverlist of MongoDB is not specified.	Specify serverlist and try again.
Cdm.1501	400	Failed to connect to the Elasticsearch server. Cause: %s.	The Elasticsearch server fails to be connected.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1502	400	Failed to write data to the Elasticsearch server. Cause: %s.	Data fails to be written to the Elasticsearch server.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1503	400	Failed to close the Elasticsearch link. Cause: %s.	The Elasticsearch link fails to be closed.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.

Error Code	Status Code	Error	Description	Solution
Cdm.1504	400	Failed to obtain the Elasticsearch index. Cause: %s	An error occurs when obtaining the Elasticsearch index.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1505	400	Failed to obtain the Elasticsearch type. Cause: %s	An error occurs when obtaining the Elasticsearch type.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1506	400	Failed to obtain the Elasticsearch field. Cause: %s	An error occurs when obtaining the Elasticsearch file field.	Locate the cause based on the error message. If the fault persists, contact customer service or technical support.
Cdm.1508	400	The host name or IP address of the Elasticsearch server must be specified.	The host name or IP address of the Elasticsearch server is not specified.	Specify the host name or IP address and try again.
Cdm.1510	400	The Elasticsearch index must be specified.	The Elasticsearch index is not specified.	Specify an index and try again.
Cdm.1511	400	The Elasticsearch type must be specified.	The Elasticsearch type is not specified.	Specify a type and try again.
Cdm.1513	400	columnList must contain the field type definition.	columnList does not contain the field type definition.	Include the field type definition and try again.
Cdm.1514	400	columnList must contain primaryKey .	columnList does not contain primaryKey .	Specify primaryKey and try again.

Error Code	Status Code	Error	Description	Solution
Cdm.1516	400	Invalid column name %s.	The column name is invalid.	Enter a correct column name and try again.
Cdm.1517	400	Failed to obtain the number of documents.	An error occurs when obtaining the number of documents.	Contact customer service or technical support.
Cdm.1519	400	Data extraction exception.	An error occurs when extracting data.	Contact customer service or technical support.
Cdm.1601	400	Failed to connect to the server.	The server fails to be connected.	Contact customer service or technical support.
Cdm.1603	400	Failed to obtain the sample value of topic %s.	The sample value of topic %s fails to be obtained.	Contact customer service or technical support.
Cdm.1604	400	No data contained in topic %s.	No data exists in the topic.	Locate the cause. Alternatively, change the topic and try again.

11.4.2 Data Development Error Codes

The error response is in the following format:

```
{
  "error_code": "DLF.0100",
  "error_msg": "The job not found"
}
```

[Table 11-4](#) describes the error codes.

Table 11-4 Error codes

Status Code	Error Code	Error Message	Description	Solution
400	DLF.0100	The job does not exist.	The Job does not exist.	Ensure that the job exists.

Stat us Code	Error Code	Error Message	Description	Solution
400	DLF.0101	The job quota has reached the upper limit.	The job quota has reached the upper limit.	Apply for a higher quota.
400	DLF.0102	The job name has been used by another job.	The job name has been used by another job.	Try another name.
400	DLF.0136	This API can be called only for batch jobs.	This API can be called only for batch jobs.	Check the job.
400	DLF.0137	The job instance does not exist.	The job instance does not exist.	Ensure that the job instance exists.
400	DLF.0201	The script fails to be created.	The script fails to be created.	Check the script.
400	DLF.0202	The script name has been used by another script.	The script name has been used by another script.	Try another name.
400	DLF.0203	The script fails to be modified.	The script fails to be modified.	Check the script.
400	DLF.0802	The specified parameter is not configured.	The specified parameter is not configured.	Check the parameter.
400	DLF.0803	The OBS path is invalid.	The OBS path is invalid.	Check the OBS path.
400	DLF.0810	The queried task does not exist.	The queried task does not exist.	Check that the task exists.
400	DLF.0815	The OBS file fails to be accessed.	The OBS file fails to be accessed.	Check the OBS file.
400	DLF.1006	The job node is empty.	The job node is empty.	Check the node.
400	DLF.1242	The OBS bucket does not exist.	The OBS bucket does not exist.	Ensure that the OBS bucket exists.
400	DLF.2014	The job object type is invalid.	The job type is invalid.	Check the job type.
400	DLF.3004	The job name cannot be left blank.	The job name cannot be left blank.	Check the job name.

Stat us Code	Error Code	Error Message	Description	Solution
400	DLF.3018	The job name is invalid.	The job name is invalid.	Check the job name.
400	DLF.3025	The job scheduling parameter is invalid.	The job scheduling parameter is invalid.	Check the job scheduling parameter.
400	DLF.3050	The job description is invalid.	The job description is invalid.	Check the job description.
400	DLF.6201	The script does not exist.	The script does not exist.	Ensure that the script exists.
400	DLF.6205	The script execution instance does not exist.	The script execution instance does not exist.	Check that the script execution instance exists.
400	DLF.6241	The resource to be queried does not exist.	The resource to be queried does not exist.	Ensure that the resource exists.
400	DLF.6247	The script type is not specified.	The script type is not specified.	Check the script.
400	DLF.6253	The script quota has reached the upper limit.	The script quota has reached the upper limit.	Apply for a higher quota.
400	DLF.6258	The directory contains data that cannot be deleted.	The directory contains data that cannot be deleted.	Delete the data in the directory first.
400	DLF.6259	A resource with the same name already exists in the directory.	A resource with the same name already exists in the directory.	Try another name.
400	DLF.6263	The resource type is invalid.	The resource type is invalid.	Check the resource type.
400	DLF.6264	The OBS path of the resource file is invalid.	The OBS path of the resource file is invalid.	Check the OBS path.
400	DLF.6265	The resource description is invalid.	The resource description is invalid.	Check the resource description.

Stat us Code	Error Code	Error Message	Description	Solution
400	DLF.6271	Each user can create only one DLI connection.	Each user can create only one DLI connection.	Check the DLI data connection.
400	DLF.6309	The connection name has been used by another connection.	The connection name has been used by another connection.	Try another connection name.
400	DLF.6322	The data connection does not exist.	The data connection does not exist.	Check that the data connection exists.
400	DLF.6323	The connection type cannot be modified.	The connection type cannot be modified.	Check the parameter type.
400	DLF.6416	The cluster has been occupied by another connection.	The cluster has been occupied by another connection.	Check the cluster.
400	DLF.6418	Either the DWS cluster name or the access address and port number of the cluster must be configured.	Either the DWS cluster name or the access address and port number of the cluster must be configured.	Check the DWS cluster name or the access address and port of the cluster.
400	DLF.6423	An exception occurs when the agent is creating a job.	An exception occurred during the agent job creation.	Try again later or check whether the agent status is normal.
400	DLF.6888	Invalid account permissions.	Invalid account permissions.	Check the account permissions.
400	DLF.21123	The single node job type cannot be empty.	The single-node job type cannot be empty.	Select the single-node job type.