

Data Lake Insight

API Reference

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1 Before You Start

1.1 Overview

Welcome to Data Lake Insight API Reference.

Data Lake Insight (DLI) is a serverless data processing and analysis service fully compatible with [Apache Spark](#), [Apache Flink](#), and Flink ecosystems. It frees you from managing any server. You can use stream analysis (with standard SQL), batch analysis (with Spark SQL), and interactive analysis (with Flink SQL) to query mainstream data formats without data ETL. DLI supports SQL statements and Spark applications for heterogeneous data sources, including RDS, DWS, CSS, OBS, custom databases on ECSs, and offline databases.

You can use APIs provided in this document to perform DLI operations, including queues, SQL jobs, Flink jobs, Spark jobs, and datasource connections. For details about all supported operations, see [Overview](#).

Before calling DLI APIs, get yourself familiar with DLI concepts. For details, see section "What Is DLI?" in the *Data Lake Insight User Guide*.

1.2 API Calling

DLI provides RESTful (Representational State Transfer) APIs, allowing you to use HTTPS to call them. For details, see [Making an API Request](#).

Unless otherwise specified, DLI APIs are synchronous. Specifically, `is_success`, indicating whether a request is successfully executed, is returned.

If the DLI API is asynchronous, run the API related to [Querying Job Status](#) according to the value of `job_id` in the response message to learn whether the API is successfully executed.

1.3 Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. For the endpoints of all services, see [Regions and Endpoints](#).

1.4 Constraints

- The number of resources you can create is determined by quota. To view or increase the quota, see "How Do I Increase a Quota?" in the *Data Lake Insight User Guide*.
- For more constraints, see the API descriptions.

1.5 Basic Concepts

Account

The account 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 account is a payment entity and should not be used to perform routine management. For security purposes, create IAM users and grant them permissions for routine management.

User

An IAM user is created by an account in IAM to use cloud services. Each IAM user has its own identity credentials (password and access keys).

The account name, username, and password will be required for API authentication.

Region

A region is a geographic area where cloud resources are deployed. Availability zones (AZs) in the same region can communicate with each other over an intranet, while AZs in different regions are isolated from each other. By creating cloud resources in different regions, you can better meet customer requirements and comply with local laws and regulations.

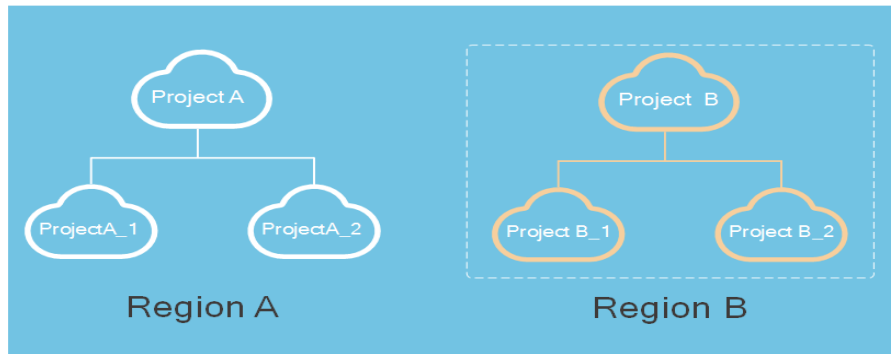
AZ

An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to support cross-AZ high-availability systems.

Project

Projects group and isolate compute, storage, and network resources across physical regions. A default project is provided for each region, and subprojects can be created under each default project. Users can be granted permissions to access all resources in a specific project. If you need more refined access control, create subprojects under a default project and purchase resources in subprojects. Then you can assign users the permissions required to access only the resources in the specific subprojects.

Figure 1-1 Project isolating model



2 Overview

This section describes the APIs provided by DLI.

Table 2-1 DLI APIs

Type	Subtype	Description
Permission-related APIs	-	You can assign permissions to queues, view queue users, assign data permissions, view database users, view table users, view table user permissions, and view the permissions of authorized users.
Agency-related APIs	-	Obtain the DLI agency information and create a DLI agency.
Queue-related APIs (Recommended)	-	You can create queues, delete queues, query all queues, modify the CIDR block of a queue, restart, scale out, or scale in a queue, query queue details, create a request for testing the connectivity of a specified address, query the connectivity of a specified address, create a scheduled queue scaling plan, query a scheduled queue scaling plan, delete scheduled queue scaling plans in batches, and delete or modify a scheduled queue scaling plan.
APIs Related to SQL Jobs	Database-related APIs	You can create a database, delete a database, view all databases, and modify database users.
	Table-related APIs	You can create, delete, and query tables, describe table information, preview table content, modify table users, and obtain the partition information list.
	Job-related APIs	You can import and export data, submitting SQL jobs, canceling jobs, querying all jobs, previewing job results, querying job status, querying job details, checking SQL syntax, and exporting query results.

Type	Subtype	Description
Package Group-related APIs	-	You can upload a group resource, query the group resource list, upload a group resource in JAR format, upload a PyFile group resource, upload a File type group resource, query a resource package in a group, delete a resource package in a group, and change the owner of a group or resource package.
APIs Related to Flink Jobs	-	You can authorize DLI to OBS, create and update SQL jobs and user-defined Flink jobs, run jobs in batches, query the job list, job details, job execution plans, and job monitoring information. You can also stop jobs in batches, delete and batch delete jobs, export and import Flink jobs, create IEF message channels, report Flink job status and callback Flink job actions at the edge, and report IEF system events.
APIs related to Spark jobs	Batch Processing-related APIs	Creating batch jobs, cancel batch jobs, querying batch job lists, querying batch job details, querying batch job status, and querying batch job logs.
APIs Related to Flink Job Templates	-	You can create, update, and delete a template, and query the template list.
APIs Related to Enhanced Datasource Connections	-	You can create and delete enhanced datasource connections, query the enhanced datasource connection list as well as the connections, bind and unbind queues, modify host information, and query enhanced datasource connection permissions.
APIs Related to Global Variables	-	You can create, delete, modify, and query global variables.
Elastic Resource Pools	-	You can create, query, delete, and modify elastic resource pools.
Datasource Authentication	-	You can create, update, and delete datasource authentication, and obtain the authentication list.
Datasources	-	You can create and delete routes required for datasource connections.
Templates	-	You can perform operations on templates, such as saving SQL templates and creating job templates.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM service as an example to explain [how to obtain a user token](#) to call an API. The obtained token can then be used to authenticate the calling of other APIs.

Request URI

A request URI is in the following format:

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

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

Table 3-1 Parameters in a URI

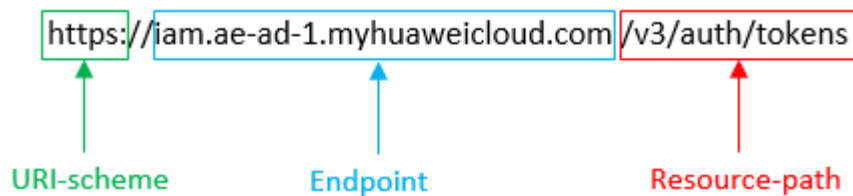
Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service. Endpoints vary depending on services and regions. For the endpoints of all services, see Regions and Endpoints . For example, the endpoint of IAM in the UAE-Abu Dhabi region is iam.ae-ad-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, the resource-path of the API used to obtain a user token is /v3/auth/tokens .

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 indicates that a maximum of 10 data records will be displayed.

For example, to obtain an IAM token in the **ae-ad-1** region, obtain the endpoint of IAM (**iam.ae-ad-1.myhuaweicloud.com**) for this region and the **resource-path** (**/v3/auth/tokens**) in the URI of the API used to **obtain a user token**. Then, construct the URI as follows:

```
https://iam.ae-ad-1.myhuaweicloud.com/v3/auth/tokens
```

Figure 3-1 Example URI



NOTE

To simplify the URI display, each API is provided with only a **resource-path** and a request method. This is because the **URI-scheme** value of all APIs is **HTTPS**, and the endpoints in a region are the same. Therefore, the two parts are omitted.

Request Methods

HTTP-based request methods, which are also called operations or actions, specify the type of operations that you are requesting.

Table 3-2 HTTP method

Request Method	Description
GET	Requests a 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 a specific resource, for example, an object.
HEAD	Same as GET except that the server must return only the response header.

Request Method	Description
PATCH	Requests a server to update part of specified resources. If the resource is unavailable, the PATCH method is used to create a resource.

For example, in the case of the API used to **obtain a user token**, the request method is **POST**. The request is as follows:

```
POST https://iam.ae-ad-1.myhuaweicloud.com/v3/auth/tokens
```

Request Header

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

Table 3-3 lists common request header fields.

Table 3-3 Common request headers

Parameter	Description	Mandatory	Example
Host	Specifies the information about the requested server. The value can be obtained from the URL of the service API. The value is hostname[:port] . If the port number is not specified, the default port is used. The default port number for https is port 443 .	No This header field is mandatory if AK/SK authentication is in use.	code.test.com or code.test.com:443
Content-Type	Specifies the request body type or format. This field is mandatory and its default value is application/json. For other values, the description will be provided for specific APIs.	Yes	application/json

Parameter	Description	Mandatory	Example
Content-Length	Indicates the length of the request body. The unit is byte.	This field is mandatory for POST and PUT requests, but must be left blank for GET requests.	3495
X-Project-ID	Project ID. It is mandatory in multi-project scenarios to obtain tokens for different projects.	No	e9993fc787d94b6c886cbaa340f9c0f4
X-Auth-Token	User token. User token is a response to the API for obtaining a user token (only this API does not require authentication).	This parameter is mandatory only for authentication using tokens.	The following is part of an example token: MIIPAgYJKoZlhvc-NAQcCo...ggg1BBII NPXsidG9rZ
Authorization	Specifies the signature authentication information. The value can be obtained from the request signing result.	This header field is mandatory if AK/SK authentication is in use.	-
X-Sdk-Date	Specifies the time when the request is sent. The time is in <i>YYYYMMDD'T'HHMMS'SZ'</i> format. The value is the current Greenwich Mean Time (GMT) of the system.	This header field is mandatory if AK/SK authentication is in use.	20150907T101459Z
X-Language	Request language.	No	en-us

 **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.

The API for **obtaining a user token** does not require authentication. Therefore, this API only requires adding the Content-Type field. The request with the added Content-Type header is as follows:

```
POST https://iam.ae-ad-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

Request Body

A request body is generally sent in a structured format. It corresponds to **Content-Type** in the request header and transfers data except for the request header.

The request body varies according to the APIs. Certain APIs do not require the request body, such as the GET and DELETE APIs.

For the API of , obtain the request parameters and parameter description from the API request. The following provides an example request with a body included.

Replace **username**, **domainname**, ********* (login password), and **xxxxxxxxxxxxxxxxxxxxxx** (project ID) with the actual values. Obtain a project ID from .

NOTE

scope specifies where a token takes effect. In the following example, the token takes effect only on the resources specified by the project ID. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see [Obtaining a User Token](#).

```
POST https://iam.ae-ad-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

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

If all data required by a request is available, you can send the request to call an API through [curl](#), [Postman](#), or coding. In the response to the IAM API used to obtain a user token, **x-subject-token** is the desired user token. Then, you can use the token to authenticate the calling of other APIs.

3.2 Authentication

API calling is authenticated using either of the following methods:

- Token authentication: Common requests are authenticated using Tokens.
- AK/SK authentication: Requests are encrypted using the access key ID and secret access key (AK/SK pair) to provide higher security. AK/SK authentication is recommended because it provides higher security than token authentication.

Token Authentication

A token specifies certain permissions in a computer system. Authentication using a token adds the token in a request as its header during API calling to obtain permissions to operate APIs through IAM.

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.

When calling the API to , 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": {
        "name": "xxxxxxx"
      }
    }
  }
}
```

After obtaining the token, add the **X-Auth-Token** header in a request to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, add **X-Auth-Token: ABCDEFJ....** in a request as follows:

```
POST https://iam.ae-ad-1.myhuaweicloud.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

AK/SK Authentication

In authentication using AK/SK, AK/SK is used to sign a request and add the signature in a request as its header for authentication.

NOTE

Authentication using AK/SK supports API requests with a body not larger than 12 MB. For API requests with a larger body, authentication using tokens is recommended.

- AK: access key ID, which is a unique identifier associated with a secret access key and is 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.

In authentication using AK/SK, you can use AK/SK to sign requests based on the signature algorithm or use a dedicated signature SDK to sign the requests.

For details about how to sign requests and use the signing SDK, see [API Request Signing Guide](#).

NOTE

The signature SDK only supports signature, which is different from the SDKs provided by services.

3.3 Returned Values

Status Code

After sending a request, you will receive a response, including the 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 response. 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

A response header corresponds to a request header, for example, **Content-Type**.

Figure [Figure 3-2](#) shows the response header fields for the API that obtains a user token. The **x-subject-token** value is the desired user token. You can use the token to authenticate other API calls.

Figure 3-2 Header of the response to the request for obtaining a user token

```
connection → keep-alive
content-type → application/json
date → Tue, 12 Feb 2019 06:52:13 GMT
server → Web Server
strict-transport-security → max-age=31536000; includeSubdomains;
transfer-encoding → chunked
via → proxy A
x-content-type-options → nosniff
x-download-options → noopen
x-frame-options → SAMEORIGIN
x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token → MIIVXQVJKoZIhvcNAQcCoIIYJCCEGoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6ijlwMTktMDItMTNUMC
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkqjACgkklQ01wi4JlGzrpdl8LGXK5tdffq4lqHCYb8P4NaY0NYejcAgz/VeFYtLWT1GSO0zxKZmlQHqj82HBqHdglZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXI1jipPEGA270g1FruooL6jggIFkNPQuFSOU8+uSsttVwRtNfsc+qTp22Rkd5MCqFGQ8LcuXc3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbvpvGw-oPNFYjEcknoH3HRozv0vN--n5d6Nbxg==
x-xss-protection → 1; mode=block;
```

Response Body

A response body is generally returned in a structured format, corresponding to the **Content-Type** in the response header, and is used to transfer content other than the response header.

The following shows part of the response body for the API to [obtain a user token](#). The following describes only part of the request body.

```
{
  "token": {
    "expires_at": "2019-02-13T06:52:13.855000Z",
    "methods": [
      "password"
    ],
    "catalog": [
      {
        "endpoints": [
          {
            "region_id": "az-01",
            .....

```

If an error occurs during API calling, the system returns an error code and a message to you. The following shows the format of an error response body:

```
{
  "error_msg": "The format of message is error",
  "error_code": "AS.0001"
}
```

In the preceding information, **error_code** is an error code, and **error_msg** describes the error.

4 Getting Started

4.1 Creating a Queue

Scenario Description

This section describes how to create a queue using APIs. For details on how to call APIs, see [Calling APIs](#).

Constraints

- Queues created using this API will be bound to specified compute resources.
- It takes 6 to 10 minutes to start a job using a new queue for the first time.

Involved APIs

- [Creating a Queue](#): Create a queue.
- [Viewing Details of a Queue](#): Ensure that the queue is successfully created.

Procedure

1. Create a queue.
 - API
URI format: POST /v1.0/{project_id}/queues
 - Obtain the value of {project_id} from [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating a Queue](#).
 - Request example
 - Description: Create an SQL queue named **queue1** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST `https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/queues`
 - Body:

```
{  
  "queue_name": "queue1",
```

```
"description": "test",  
"cu_count": 16,  
"resource_mode": 1,  
"queue_type": "sql"  
}
```

– Example response

```
{  
  "is_success": true,  
  "message": "",  
  "queue_name": "queue1"  
}
```

2. Verify that the queue is created successfully.

– API

URI format: GET `/v1.0/{project_id}/queues/{queue_name}`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the query parameters, see [Viewing Details of a Queue](#).

– Request example

- Description: Query details about queue1 in the project whose ID is 48cc2c48765f481480c7db940d6409d1.

- Example URL: GET `https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/queues/queue1`

- Body:
{

– Example response

```
{  
  "is_success": true,  
  "message": "",  
  "owner": "testuser",  
  "description": "",  
  "queue_name": "queue1",  
  "create_time": 1587613028851,  
  "queue_type": "sql",  
  "cu_count": 16,  
  "resource_id": "03d51b88-db63-4611-b779-9a72ba0cf58b",  
  "resource_mode": 0  
}
```

4.2 Creating and Submitting a SQL Job

Scenario Description

This section describes how to create and query SQL jobs using APIs. For details on how to call APIs, see [Calling APIs](#).

Constraints

- It takes 6 to 10 minutes to start a job using a new queue for the first time.

Involved APIs

- [Creating a Queue](#): Create a queue.

- [Creating a Database](#): Create a database.
- [Creating a Table](#): Create a table.
- [Importing Data](#): Import the data to be queried.
- [Querying Job Details](#): Check whether the imported data is correct.
- [Submitting a SQL Job \(Recommended\)](#): Submit a query job.

Procedure

1. Create a SQL queue. For details, see [Creating a Queue](#).
2. Create a database.
 - API
URI format: POST /v1.0/{project_id}/databases
 - Obtain the value of {project_id} from [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating a Database](#).
 - Request example
 - Description: Creates a database named **db1** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/databases
 - Body:

```
{
  "database_name": "db1",
  "description": "this is for test"
}
```
 - Example response

```
{
  "is_success": true,
  "message": ""
}
```
3. Create a table.
 - API
URI format: POST /v1.0/{project_id}/databases/{database_name}/tables
 - Obtain the value of {project_id} from [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating a Table](#).
 - Request example
 - Description: In the project whose ID is **48cc2c48765f481480c7db940d6409d1**, create a table named **tb1** in the **db1** database.
 - Example URL: POST https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/databases/db1/tables
 - Body:

```
{
  "table_name": "tb1",
  "data_location": "OBS",
  "description": ""
}
```

```
"data_type": "csv",
"data_path": "obs://obs/path1/test.csv",
"columns": [
  {
    "column_name": "column1",
    "type": "string",
    "description": "",
    "is_partition_column": true
  },
  {
    "column_name": "column2",
    "type": "string",
    "description": "",
    "is_partition_column": false
  }
],
"with_column_header": true,
"delimiter": ",",
"quote_char": "\"",
"escape_char": "\\\"",
"date_format": "yyyy-MM-dd",
"timestamp_format": "yyyy-MM-dd HH:mm:ss"
}
```

– Example response

```
{
  "is_success": true,
  "message": ""
}
```

- (Optional) If the table to be created does not contain data, use the [Importing Data](#) API to import data to the table.
- (Optional) After data is imported, you can use the [Querying Job Details](#) API to check whether the imported data is correct.
- Submit a query job.

– API

URI format: POST `/v1.0/{project_id}/jobs/submit-job`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the request parameters, see [Creating a Database](#).

– Request example

- Description: Submit a SQL job in the project whose ID is **48cc2c48765f481480c7db940d6409d1** and query data in the **tb1** table in the database **db1**.
- Example URL: POST `https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/jobs/submit-job`

■ Body:

```
{
  "currentdb": "db1",
  "sql": "select * from tb1 limit 10",
  "queue_name": "queue1"
}
```

– Example response

```
{
  "is_success": true,
  "message": "",
  "job_id": "95fcc908-9f1b-446c-8643-5653891d9fd9",
  "job_type": "QUERY",
}
```

```
"job_mode": "async"  
}
```

4.3 Creating and Submitting a Spark Job

Scenario Description

This section describes how to create and submit Spark jobs using APIs. For details on how to call APIs, see [Calling APIs](#).

Constraints

- It takes 6 to 10 minutes to start a job using a new queue for the first time.

Involved APIs

- [Creating a Queue](#): Create a queue.
- [Uploading a Package Group](#): Upload the resource package required by the Spark job.
- [Querying Resource Packages in a Group](#): Check whether the uploaded resource package is correct.
- [Creating a Batch Processing Job](#): Create and submit a Spark batch processing job.
- [Querying a Batch Job Status](#): View the status of a batch processing job.
- [Querying Batch Job Logs](#): View batch processing job logs.

Procedure

1. Create a common queue. For details, see [Creating a Queue](#).
2. Upload a package group.
 - API
URI format: POST `/v2.0/{project_id}/resources`
 - Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
 - For details about the request parameters, see [Uploading a Package Group](#).
 - Request example
 - Description: Upload resources in the GATK group to the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/resources`
 - Body:

```
{  
  "paths": [  
    "https://test.obs.xxx.com/txr_test/jars/spark-sdv-app.jar"  
  ],  
  "kind": "jar",  
  "group": "gatk",  
  "is_async": "true"  
}
```


– Example response

```
{
  "group_name": "gatk",
  "status": "READY",
  "resources": [
    "spark-sdv-app.jar",
    "wordcount",
    "wordcount.py"
  ],
  "details": [
    {
      "create_time": 0,
      "update_time": 0,
      "resource_type": "jar",
      "resource_name": "spark-sdv-app.jar",
      "status": "READY",
      "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_spark-sdv-app.jar"
    },
    {
      "create_time": 0,
      "update_time": 0,
      "resource_type": "jar",
      "resource_name": "wordcount",
      "status": "READY",
      "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_wordcount"
    },
    {
      "create_time": 0,
      "update_time": 0,
      "resource_type": "jar",
      "resource_name": "wordcount.py",
      "status": "READY",
      "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_wordcount.py"
    }
  ],
  "create_time": 1551334579654,
  "update_time": 1551345369070
}
```

3. View resource packages in a group.

– API

URI format: GET `/v2.0/{project_id}/resources/{resource_name}`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the query parameters, see [Creating a Table](#).

– Request example

- Description: Query the resource package named **luxor-router-1.1.1.jar** in the GATK group under the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
- Example URL: GET `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/resources/luxor-router-1.1.1.jar?group=gatk`

Body:
{}

– Example response

```
{
  "create_time": 1522055409139,
  "update_time": 1522228350501,
  "resource_type": "jar",
  "resource_name": "luxor-router-1.1.1.jar",
}
```

```
"status": "uploading",
"underlying_name": "7885d26e-c532-40f3-a755-c82c442f19b8_luxor-router-1.1.1.jar",
"owner": "*****"
}
```

4. Create and submit a Spark batch processing job.

– API

URI format: POST `/v2.0/{project_id}/batches`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the request parameters, see [Creating a Batch Processing Job](#).

– Request example

- Description: In the `48cc2c48765f481480c7db940d6409d1` project, create a batch processing job named `TestDemo4` in `queue1`.

- Example URL: POST `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/batches`

▪ Body:

```
{
  "sc_type": "A",
  "jars": [
    "spark-examples_2.11-2.1.0.luxor.jar"
  ],
  "driverMemory": "1G",
  "driverCores": 1,
  "executorMemory": "1G",
  "executorCores": 1,
  "numExecutors": 1,
  "queue": "cce_general",
  "file":
  "spark-examples_2.11-2.1.0.luxor.jar",
  "className":
  "org.apache.spark.examples.SparkPi",
  "minRecoveryDelayTime": 10000,
  "maxRetryTimes": 20
}
```

– Example response

```
{
  "id": "07a3e4e6-9a28-4e92-8d3f-9c538621a166",
  "appld": "",
  "name": "",
  "owner": "test1",
  "proxyUser": "",
  "state": "starting",
  "kind": "",
  "log": [],
  "sc_type": "CUSTOMIZED",
  "cluster_name": "aaa",
  "queue": "aaa",
  "create_time": 1607589874156,
  "update_time": 1607589874156
}
```

5. Query a batch job status.

– API

URI format: GET `/v2.0/{project_id}/batches/{batch_id}/state`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).

- For details about the query parameters, see [Querying a Batch Job Status](#).
 - Request example
 - Description: Query the status of the batch processing job whose ID is **0a324461-d9d9-45da-a52a-3b3c7a3d809e** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: GET `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/batches/0a324461-d9d9-45da-a52a-3b3c7a3d809e/state`
 - Body:

```
{}
```
 - Example response

```
{  
  "id": "0a324461-d9d9-45da-a52a-3b3c7a3d809e",  
  "state": "Success"  
}
```
6. Query batch job logs.
- API
URI format: GET `/v2.0/{project_id}/batches/{batch_id}/log`
 - Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
 - For details about the query parameters, see [Querying Batch Job Logs](#).
 - Request example
 - Description: Queries for the background logs of the batch processing job with the ID of **0a324461-d9d9-45da-a52a-3b3c7a3d809e** in the **48cc2c48765f481480c7db940d6409d1** project.
 - Example URL: GET `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/batches/0a324461-d9d9-45da-a52a-3b3c7a3d809e/log`
 - Body:

```
{}
```
 - Example response

```
{  
  "id": "0a324461-d9d9-45da-a52a-3b3c7a3d809e",  
  "from": 0,  
  "total": 3,  
  "log": [  
    "Detailed information about job logs"  
  ]  
}
```

4.4 Creating and Submitting a Flink Job

Scenario Description

This section describes how to create and run a user-defined Flink job using APIs. For details on how to call APIs, see [Calling APIs](#).

Constraints

- It takes 6 to 10 minutes to start a job using a new queue for the first time.

Involved APIs

- [Creating a Queue](#): Create a queue.
- [Uploading a Package Group](#): Upload the resource package required by the Flink custom job.
- [Querying Resource Packages in a Group](#): Check whether the uploaded resource package is correct.
- [Creating a Flink Jar job](#): Create a user-defined Flink job.
- [Running Jobs in Batches](#): Run a user-defined Flink job.

Procedure

1. Create a queue for general use. For details, see [Creating a Queue](#). In the request, set **resource_mode** to **1** to create a dedicated queue.
2. Upload the resource package of the user-defined Flink job. For details, see [2](#).
3. Query resource packages in a group. For details, see [3](#).
4. Create a custom flink job.

- API

URI format: POST `/v1.0/{project_id}/streaming/flink-jobs`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the request parameters, see [Creating a Database](#).

- Request example

- Description: Create a user-defined Flink job in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.

- Example URL: POST `https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/streaming/flink-jobs`

- Body:

```
{
  "name": "test",
  "desc": "job for test",
  "queue_name": "testQueue",
  "manager_cu_number": 1,
  "cu_number": 2,
  "parallel_number": 1,
  "tm_cus": 1,
  "tm_slot_num": 1,
  "log_enabled": true,
  "obs_bucket": "bucketName",
  "smn_topic": "topic",
  "main_class": "org.apache.flink.examples.streaming.JavaQueueStream",
  "restart_when_exception": false,
  "entrypoint": "javaQueueStream.jar",
  "entrypoint_args": "-windowSize 2000 -rate3",
  "dependency_jars": [
    "myGroup/test.jar",
    "myGroup/test1.jar"
  ],
  "dependency_files": [
    "myGroup/test.csv",
```

```
    "myGroup/test1.csv"
  ]
}
```

– Example response

```
{
  "is_success": true,
  "message": "A Flink job is created successfully.",
  "job": {
    "job_id": 138,
    "status_name": "job_init",
    "status_desc": ""
  }
}
```

5. Run jobs in batches.

– API

URI format: POST `/v1.0/{project_id}/streaming/jobs/run`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the request parameters, see [Running Jobs in Batches](#).

– Request example

- Description: Run the jobs whose `job_id` is **298765** and **298766** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
- Example URL: POST `https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/streaming/jobs/run`

▪ Body:

```
{
  "job_ids": [131,130,138,137],
  "resume_savepoint": true
}
```

– Example response

```
[
  {
    "is_success": "true",
    "message": "The request for submitting DLI jobs is delivered successfully."
  },
  {
    "is_success": "true",
    "message": "The request for submitting DLI jobs is delivered successfully."
  },
  {
    "is_success": "true",
    "message": "The request for submitting DLI jobs is delivered successfully."
  },
  {
    "is_success": "true",
    "message": "The request for submitting DLI jobs is delivered successfully."
  }
]
```

4.5 Creating and Using a Datasource Connection

Scenario Description

This section describes how to create an enhanced datasource connection using an API. For details on how to call APIs, see [Calling APIs](#).

Constraints

- It takes 6 to 10 minutes to start a job using a new queue for the first time.
- Before creating an enhanced datasource connection, you need to obtain the ID of the VPC and the network ID of the subnet where the service is located.

Involved APIs

- **Creating a Queue:** Create a dedicated queue.
- **Creating an Enhanced Datasource Connection:** Create an enhanced datasource connection.
- **Binding a Queue:** Bind a queue.
- **Querying an Enhanced Datasource Connection:** Check whether an enhanced datasource connection is successfully created.

Procedure

1. Create a queue. For details, see [Creating a Queue](#). In the request, set **resource_mode** to **1** to create a dedicated queue.
2. Create an enhanced datasource connection.
 - API
URI format: POST `/v2.0/{project_id}/datasource/enhanced-connections`
 - Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating an Enhanced Datasource Connection](#).
 - Request example
 - Description: Create an enhanced datasource connection named **test1** in project **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/datasource/enhanced-connections`
 - Body:

```
{
  "name": "test1",
  "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
  "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
  "queues": ["q1","q2"],
  "hosts": [
    {
      "ip": "192.168.0.1",
      "name": "ecs-97f8-0001"
    },
    {
      "ip": "192.168.0.2",
      "name": "ecs-97f8-0002"
    }
  ]
}
```
 - Example response

```
{
  "is_success": true,
  "message": ""
}
```

```
"connection_id": "2a620c33-5609-40c9-affd-2b6453071b0f"
}
```

- (Optional) If no queue is bound when you create an enhanced datasource connection, you can use the [Binding a Queue](#) API to bind a queue.
- Verify that the enhanced datasource connection is created successfully.

- API

URI format: GET `/v2.0/{project_id}/datasource/enhanced-connections/{connection_id}`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the query parameters, see [Creating a Database](#).

- Request example

- Description: Query an enhanced datasource connection whose ID is **2a620c33-5609-40c9-affd-2b6453071b0f** in project **48cc2c48765f481480c7db940d6409d1**.
- Example URL: GET `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/datasource/enhanced-connections/2a620c33-5609-40c9-affd-2b6453071b0f`

- Body:

```
{}
```

- Example response

```
{
  "is_success": true,
  "message": "",
  "name": "test1",
  "id": "2a620c33-5609-40c9-affd-2b6453071b0f",
  "available_queue_info": [
    {
      "status": "ACTIVE",
      "name": "queue1",
      "peer_id": "2a620c33-5609-40c9-affd-2b6453071b0f",
      "err_msg": "",
      "update_time": 1566889577861
    }
  ],
  "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
  "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
  "isPrivis": true,
  "create_time": 1566888011125,
  "status": "ACTIVE",
  "hosts": [
    {
      "ip": "192.168.0.1",
      "name": "ecs-97f8-0001"
    },
    {
      "ip": "192.168.0.2",
      "name": "ecs-97f8-0002"
    }
  ]
}
```

5 Permission-related APIs

5.1 Granting Users with the Queue Usage Permission

Function

This API is used to share a specific queue with other users. You can grant users with the permission to use the specified queue or revoke the permission.

URI

- URI format
PUT /v1.0/{project_id}/queues/user-authorization
- Parameter description

Table 5-1 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request

Table 5-2 Request parameters

Parameter	Mandatory	Type	Description
queue_name	Yes	String	Name of a queue.

Parameter	Mandatory	Type	Description
user_name	Yes	String	Name of the user who is granted with usage permission on a queue or whose queue usage permission is revoked or updated.
action	Yes	String	Grants or revokes the permission. The parameter value can be grant , revoke , or update . Users can perform the update operation only when they have been granted with the grant and revoke permissions. <ul style="list-style-type: none"> • grant: Indicates to grant users with permissions. • revoke: Indicates to revoke permissions. • update: Indicates to clear all the original permissions and assign the permissions in the provided permission array.
privileges	Yes	Array of Strings	List of permissions to be granted, revoked, or updated. The following permissions are supported: <ul style="list-style-type: none"> • SUBMIT_JOB: indicates to submit a job. • CANCEL_JOB: indicates to cancel a job. • DROP_QUEUE: indicates to delete a queue. • GRANT_PRIVILEGE: indicates to assign a permission. • REVOKE_PRIVILEGE: indicates to revoke a permission. • SHOW_PRIVILEGE: indicates to view other user's permissions. • RESTART: indicates to restart the queue. • SCALE_QUEUE: indicates to change the queue specifications. <p>NOTE If the update list is empty, all permissions of the queue granted to the user are revoked.</p>

Response

Table 5-3 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.

Parameter	Mandatory	Type	Description
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

```
{
  "queue_name": "queue1",
  "user_name": "tenant2",
  "action": "grant",
  "privileges": ["DROP_QUEUE", "SUBMIT_JOB"]
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

[Table 5-4](#) describes the status code.

Table 5-4 Status codes

Status Codes	Description
200	Authorization succeeds.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

5.2 Querying Queue Users

Function

This API is used to query names of all users who can use a specified queue.

URI

- URI format
GET /v1.0/{project_id}/queues/{queue_name}/users

- Parameter description

Table 5-5 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Name of a queue.

Table 5-6 query parameter description

Parameter	Mandatory	Type	Description
limit	Yes	Integer	Number of records to be displayed of the page-based query.
offset	Yes	Integer	Specifies the offset of the page-based query.

Request

None

Response

Table 5-7 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
queue_name	No	String	Name of a queue.
privileges	No	Array of Object	Users who are granted with the permission to use this queue and the permission array to which users belong. For details, see Table 5-8 .

Table 5-8 privileges parameters

Parameter	Mandatory	Type	Description
is_admin	No	Boolean	Whether the database user is an administrator.
user_name	No	String	Name of the user who has permission on the current queue.
privileges	No	Array of Strings	Permission of the user on the queue.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "privileges": [
    {
      "is_admin": true,
      "privileges": [
        "ALL"
      ],
      "user_name": "tenant1"
    },
    {
      "is_admin": false,
      "privileges": [
        "SUBMIT_JOB"
      ],
      "user_name": "user2"
    }
  ],
  "queue_name": "queue1"
}
```

Status Codes

[Table 5-9](#) describes the status code.

Table 5-9 Status codes

Status Code	Description
200	Authorization succeeds.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

5.3 Granting Data Permission to Users

Function

This API is used to grant database or table data usage permission to specified users.

URI

- URI format
PUT /v1.0/{project_id}/user-authorization
- Parameter description

Table 5-10 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request

Table 5-11 Request parameters

Parameter	Mandatory	Type	Description
user_name	Yes	String	Name of the user who is granted with usage permission on a queue or whose queue usage permission is revoked or updated.

Parameter	Mandatory	Type	Description
action	Yes	String	<p>Grants or revokes the permission. The parameter value can be grant, revoke, or update.</p> <ul style="list-style-type: none"> • grant: Indicates to grant users with permissions. • revoke: Indicates to revoke permissions. • update: Indicates to clear all the original permissions and assign the permissions in the provided permission array. <p>NOTE Users can perform the update operation only when they have been granted with the grant and revoke permissions.</p>
privileges	Yes	Array of Objects	Permission granting information. For details, see Table 5-12 .

Table 5-12 privileges parameters

Parameter	Mandatory	Type	Description
object	Yes	String	<p>Data objects to be assigned. If they are named:</p> <ul style="list-style-type: none"> • databases.Database name, data in the entire database will be shared. • databases.Database name.tables.Table name, data in the specified table will be shared. • databases.Database name.tables.Table name.columns.Column name, data in the specified column will be shared. • jobs.flink.Flink job ID, data the specified job will be shared. • groups.Package group name, data in the specified package group will be shared. • resources.Package name, data in the specified package will be shared.
privileges	Yes	Array of Strings	<p>List of permissions to be granted, revoked, or updated.</p> <p>NOTE If Action is Update and the update list is empty, all permissions of the user in the database or table are revoked.</p>

Response

Table 5-13 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

```
{
  "user_name": "user2",
  "action": "grant",
  "privileges": [
    {
      "object": "databases.db1.tables.tb2.columns.column1",
      "privileges": [
        "SELECT"
      ]
    },
    {
      "object": "databases.db1.tables.tbl",
      "privileges": [
        "DROP_TABLE"
      ]
    },
    {
      "object": "databases.db1",
      "privileges": [
        "SELECT"
      ]
    }
  ]
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

Table 5-14 describes the status code.

Table 5-14 Status codes

Status Code	Description
200	Authorization succeeds.
400	Request error.

Status Code	Description
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

5.4 Querying Database Users

Function

This API is used query names of all users who have permission to use or access the database.

URI

- URI format
GET /v1.0/{project_id}/databases/{database_name}/users
- Parameter description

Table 5-15 URI parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	Name of the database to be queried.

Request

None

Response

Table 5-16 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
database_name	No	String	Name of the database to be queried.
privileges	No	Array of objects	Permission information. For details, see Table 5-17 .

Table 5-17 privileges parameters

Parameter	Mandatory	Type	Description
is_admin	No	Boolean	Whether the database user is an administrator.
user_name	No	String	Name of the user who has permission on the current database.
privileges	No	Array of Strings	Permission of the user on the database.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "database_name": "dsstest",
  "privileges": [
    {
      "is_admin": true,
      "privileges": [
        "ALL"
      ],
      "user_name": "test"
    }
  ],
}
```

```
"is_admin": false,
"privileges": [
  "ALTER_TABLE_ADD_PARTITION"
],
"user_name": "scuser1"
},
{
  "is_admin": false,
  "privileges": [
    "CREATE_TABLE"
  ],
  "user_name": "scuser2"
}
]
```

NOTE

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

5.5 Querying Table Users

Function

This API is used to query users who have permission to access the specified table or column in the table.

URI

- URI format
GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/users
- Parameter description

Table 5-18 URI parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	Name of the database where the table to be queried resides.
table_name	Yes	Name of a table that is to be queried.

Request

None

Response

Table 5-19 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
privileges	No	Array <Objects>	Permission information. For details, see Table 5-20 .

Table 5-20 privileges parameters

Parameter	Mandatory	Type	Description
is_admin	No	Boolean	Whether the table user is an administrator.
object	No	String	Objects on which a user has permission. <ul style="list-style-type: none"> If the object is in the format of databases.Database name.tables.Table name, the user has permission on the database. If the object is in the format of databases.Database name.tables.Table name.columns.Column name, the user has permission on the table.
privileges	No	Array<String>	Permission of the user on the object.
user_name	No	String	Name of the user who has the permission.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "privileges": [
```

```
{
  "is_admin": false,
  "object": "databases.dsstest.tables.csv_par_table",
  "privileges": [
    "SELECT"
  ],
  "user_name": "tent2"
},
{
  "is_admin": true,
  "object": "databases.dsstest.tables.csv_par_table",
  "privileges": [
    "ALL"
  ],
  "user_name": "tent4"
}
]
```

 **NOTE**

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

5.6 Querying a User's Table Permissions

Function

This API is used to query the permission of a specified user on a table.

URI

- URI format
GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/users/{user_name}
- Parameter description

Table 5-21 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	String	Name of the database where the table to be queried resides.
table_name	Yes	String	Name of a table that is to be queried.
user_name	Yes	String	Name of the user whose permission is to be queried.

Request

None

Response

Table 5-22 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
user_name	No	String	Name of the user whose permission is to be queried.
privileges	No	Array Of objects	Permission information. For details, see Table 5-23 .

Table 5-23 privileges parameters

Parameter	Mandatory	Type	Description
object	No	String	Objects on which a user has permission. <ul style="list-style-type: none"> If the object is in the format of databases.Database name.tables.Table name, the user has permission on the database. If the object is in the format of databases.Database name.tables.Table name.columns.Column name, the user has permission on the table.
privileges	No	Array of Strings	Permission of the user on a specified object.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "privileges": [
```

```
{
  "object": "databases.dsstest.tables.obs_2312",
  "privileges": [
    "DESCRIBE_TABLE"
  ]
},
{
  "object": "databases.dsstest.tables.obs_2312.columns.id",
  "privileges": [
    "SELECT"
  ]
}
],
"user_name": "scuser1"
}
```

Status Codes

[Table 5-24](#) describes the status code.

Table 5-24 Status codes

Status Code	Description
200	Authorization succeeds.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

5.7 Viewing the Granted Permissions of a User

Function

This API is used to view the permissions granted to a user.

URI

- URI format
GET /v1.0/{project_id}/authorization/privileges
- Parameter descriptions:

Table 5-25 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Table 5-26 query parameter description

Parameter	Mandatory	Type	Description
object	Yes	String	Data object to be assigned, which corresponds to the object in API permission assignment. <ul style="list-style-type: none"> jobs.flink.Flink job ID, data in the specified job will be queried. groups. Package group name, data in the specified package group will be queried. resources. Package name, data in the specified package will be queried. <p>NOTE When you view the packages in a group, the object format is resources.package group name/package name.</p>
offset	No	Integer	Specifies the offset of the page-based query.
limit	No	Integer	Number of records to be displayed of the page-based query.

 **NOTE**

The following is an example of the URL containing the **query** parameter:
GET /v1.0/{project_id}/authorization/privileges?object={object}

Request

None

Response

Table 5-27 Response parameters

Parameter	Mandatory	Type	Description
is_success	Yes	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	Yes	String	Indicates the system prompt. If execution succeeds, this parameter may be left blank.
object_name	Yes	String	Object name.
object_type	Yes	String	Object type.
privileges	No	Array of Object	Permission information. For details, see Table 5-28 .
count	No	Integer	Total number of permissions.

Table 5-28 privileges parameters

Parameter	Mandatory	Type	Description
is_admin	No	Boolean	Whether the database user is an administrator.
user_name	No	String	Name of the user who has permission on the current database.
privileges	No	Array of Strings	Permission of the user on the database.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "object_name": "9561",
  "object_type": "flink",
  "count": 2,
```



```

"privileges": [
  {
    "user_name": "testuser1",
    "is_admin": true,
    "privileges": [
      "ALL"
    ]
  },
  {
    "user_name": "user1",
    "is_admin": false,
    "privileges": [
      "GET"
    ]
  }
]

```

Status Codes

[Table 5-29](#) describes the status code.

Table 5-29 Status codes

Status Code	Description
200	Authorization succeeds.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

Table 5-30 Error codes

Error Code	Error Message
DLI.0001	user input validation failed, object_type sql or saprk is not supported now

6 Queue-related APIs (Recommended)

6.1 Creating a Queue

Function

This API is used to create a queue. The queue will be bound to specified compute resources.

 **NOTE**

It takes 5 to 15 minutes to start a job using a new queue for the first time.

URI

- URI format
POST /v1.0/{project_id}/queues
- Parameter description

Table 6-1 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request

Table 6-2 Request parameters

Parameter	Mandatory	Type	Description
queue_name	Yes	String	Name of a newly created resource queue. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_). Length range: 1 to 128 characters. NOTE The queue name is case-insensitive. The uppercase letters will be automatically converted to lowercase letters.
queue_type	No	String	Queue type. The options are as follows: <ul style="list-style-type: none"> • sql: Queues used to run SQL jobs • general: Queues used to run Flink and Spark Jar jobs. NOTE If the type is not specified, the default value sql is used.
description	No	String	Description of a queue.
cu_count	Yes	Integer	Minimum number of CUs that are bound to a queue. Currently, the value can only be 16 , 64 , or 256 .
enterprise_project_id	No	String	Enterprise project ID. The value 0 indicates the default enterprise project. NOTE Users who have enabled Enterprise Management can set this parameter to bind a specified project.
platform	No	String	CPU architecture of compute resources. <ul style="list-style-type: none"> • x86_64
resource_mode	No	Integer	Queue resource mode. The options are as follows: <ul style="list-style-type: none"> 0: indicates the shared resource mode. 1: indicates the exclusive resource mode.
labels	No	Array of Strings	Tag information of the queue to be created. Currently, the tag information includes whether the queue is cross-AZ (JSON character string). The value can only be 2 , that is, a dual-AZ queue whose compute resources are distributed in two AZs is created.

Parameter	Mandatory	Type	Description
tags	No	Array of Objects	Queue tags for identifying cloud resources. A tag consists of a key and tag value. For details, see Table 6-3 .

Table 6-3 tags parameters

Parameter	Mandatory	Type	Description
Key	Yes	String	Tag key.
value	Yes	String	Tag value.

Response

Table 6-4 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
queue_name	No	String	Name of the created queue. NOTE The queue name is case-insensitive. The uppercase letters will be automatically converted to lowercase letters.

Example Request

```
{
  "queue_name": "queue1",
  "description": "test",
  "cu_count": 16,
  "resource_mode": 1,
  "queue_type": "general",
  "labels": ["multi_az=2"]
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

```
"queue_name": "queue1"  
}
```

Status Codes

[Table 6-5](#) describes the status code.

Table 6-5 Status codes

Status Code	Description
200	The job is created successfully.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

6.2 Deleting a Queue

Function

This API is used to delete a specified queue.

 **NOTE**

If a task is being executed in a specified queue, the queue cannot be deleted.

URI

- URI format
DELETE /v1.0/{project_id}/queues/{queue_name}
- Parameter description

Table 6-6 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Name of a queue to be deleted.

Request

None

Response

Table 6-7 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

None

Example Response

```
{  
  "is_success": true,  
  "message": ""  
}
```

Status Codes

[Table 6-8](#) describes the status code.

Table 6-8 Status codes

Status Code	Description
200	Deletion succeeded.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

6.3 Querying All Queues

Function

This API is used to list all queues under the project.

URI

- URI format
GET/v1.0/{project_id}/queues
- Parameter description

Table 6-9 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Table 6-10 query parameter description

Parameter	Mandatory	Type	Description
queue_type	No	String	Type of the queue. The options are as follows: <ul style="list-style-type: none">• sql: queues for SQL jobs• general: queues for Flink and Spark Jar jobs• all: queues of all types If this parameter is not specified, the default value sql is used.
with-priv	No	Boolean	Whether to return permission information.
page-size	No	Integer	Maximum number of lines displayed on each page. The default value is Integer.MAX_VALUE , indicating that all results are displayed on one page.
current-page	No	Integer	Current page number. The default value is 1 .

Parameter	Mandatory	Type	Description
order	No	String	Filed based on which queues are ordered The default value is queue_name_asc (alphabetically ascending order on queue names). Other options are queue_name_desc (alphabetically descending order on queue names), cu_asc (ascending order on CUs), and cu_desc (descending order on CUs).
tags	No	String	Query results are filtered by tag.

Request

None

Response

Table 6-11 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
queues	No	Array of Object	Queue information For details, see Table 6-12 .

Table 6-12 queues parameters description

Parameter	Mandatory	Type	Description
queue_name	No	String	Name of a queue.
description	No	String	Queue description.
owner	No	String	User who creates a queue.
create_time	No	Long	Time when the queue is created. The timestamp is expressed in milliseconds.

Parameter	Mandatory	Type	Description
queue_type	No	String	Queue type. <ul style="list-style-type: none"> • sql • general • all If this parameter is not specified, the default value sql is used.
cu_count	No	Integer	Number of compute units (CUs) bound to a queue, that is, the number of CUs in the current queue.
resource_id	No	String	Resource ID of a queue.
enterprise_project_id	No	String	Enterprise project ID. 0 indicates the default enterprise project. NOTE Users who have enabled Enterprise Management can set this parameter to bind a specified project.
cidr_in_vpc	No	String	The VPC CIDR block of the queue.
cidr_in_mgmt_subnet	No	String	CIDR block of the management subnet
cidr_in_subnet	No	String	Subnet CIDR block
resource_mode	No	Integer	Resource mode <ul style="list-style-type: none"> • 0: Shared queue • 1: Dedicated queue
platform	No	String	CPU architecture of queue compute resources. <ul style="list-style-type: none"> • x86_64
is_restarting	No	Boolean	Whether to restart the queue. The default value is false .
labels	No	Array of Strings	Tag information of the queue to be created, including the JSON string indicating whether the queue is Dual-AZ. Currently, only the value 2 is supported, indicating that two queues are created.
cu_spec	No	Integer	Specifications of a queue. For a queue whose billing mode is yearly/monthly, this parameter indicates the CU value of the yearly/monthly part. For a pay-per-use queue, this parameter indicates the initial value when a user purchases a queue.

Parameter	Mandatory	Type	Description
cu_scale_out_limit	No	Integer	Upper limit of the CU value for elastic scaling of the current queue.
cu_scale_in_limit	No	Integer	Lower limit of the CU value for elastic scaling of the current queue.

Example Request

None

Example Response

```
{
  "is_success": "true",
  "message": "",
  "queues": [
    {
      "queue_name": "test",
      "owner": "testuser",
      "description": "",
      "create_time": 1562221422671,
      "queue_type": "spark",
      "cu_count": 16,
      "resource_id": "26afb850-d3c9-42c1-81c0-583d1163e80f",
      "cidr_in_vpc": "10.0.0.0/8",
      "cidr_in_subnet": "10.0.0.0/24",
      "cidr_in_mgmtsubnet": "10.23.128.0/24",
      "resource_mode": 1,
      "platform": "x86_64",
      "is_restarting": "false",
      "labels": ["multi_az=2"],
      "resource_type": "vm",
      "cu_spec": 16
    }
  ]
}
```

Status Codes

[Table 6-13](#) describes the status code.

Table 6-13 Status codes

Status Code	Description
200	The query is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

6.4 Viewing Details of a Queue

Function

This API is used to list details of a specific queue in a project.

URI

- URI format
GET /v1.0/{project_id}/queues/{queue_name}
- Parameter description

Table 6-14 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Specifies the name of a queue to be queried. NOTE The queue name is case-insensitive. The uppercase letters will be automatically converted to lowercase letters.

Request

None

Response

Table 6-15 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.

Parameter	Mandatory	Type	Description
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
queueName	No	String	Name of a queue. NOTE The queue name is case-insensitive. The uppercase letters will be automatically converted to lowercase letters.
description	No	String	Queue description.
owner	No	String	User who creates a queue.
createTime	No	Long	Time when the queue is created. The timestamp is expressed in milliseconds.
queueType	No	String	Indicates the queue type. <ul style="list-style-type: none"> • sql • general • all If this parameter is not specified, the default value sql is used.
cuCount	No	Integer	Number of compute units (CUs) bound to a queue, that is, the number of CUs in the current queue.
resourceId	No	String	Resource ID of a queue.
resourceMode	No	Integer	Resource mode <ul style="list-style-type: none"> • 0: Shared queue • 1: Dedicated queue
enterpriseProjectId	No	String	Enterprise project ID. 0 indicates the default enterprise project. NOTE Users who have enabled Enterprise Management can set this parameter to bind a specified project.
cuSpec	No	Integer	Specifications of a queue. For a queue whose billing mode is yearly/monthly, this parameter indicates the CU value of the yearly/monthly part. For a pay-per-use queue, this parameter indicates the initial value when a user purchases a queue.
cuScaleOutLimit	No	Integer	Upper limit of the CU value for elastic scaling of the current queue.
cuScaleInLimit	No	Integer	Lower limit of the CU value for elastic scaling of the current queue.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "owner": "testuser",
  "description": "",
  "queueName": "test",
  "create_time": 1587613028851,
  "queueType": "general",
  "cuCount": 16,
  "resource_id": "03d51b88-db63-4611-b779-9a72ba0cf58b",
  "resource_mode": 0
},
{
  "resource_type": "vm",
  "cu_spec": 16
}
```

Status Codes

[Table 6-16](#) describes the status code.

Table 6-16 Status codes

Status Code	Description
200	The query is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

6.5 Restarting, Scaling Out, and Scaling In Queues

Function

This API is used to restart, scale out, and scale in queues.

NOTE

Only SQL queues in the **Available** status can be restarted. (The queue status is **Available** only after the SQL job is successfully executed.)

URI

- URI format
PUT /v1.0/{project_id}/queues/{queue_name}/action
- Parameter description

Table 6-17 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Name of a queue.

Request

Table 6-18 Request parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Operations to be performed: <ul style="list-style-type: none"> • restart: Restart a service. Only queues for SQL jobs can be restarted. • scale_out: Scale out the queue • scale_in: Scale in the queue NOTE Currently, only restart , scale_out , and scale_in operations are supported.
force	No	Boolean	Specifies whether to forcibly restart the queue. This parameter is optional when action is set to restart . The default value is false .
cu_count	No	Integer	Number of CUs to be scaled in or out. This parameter is optional when action is set to scale_out or scale_in . The value of cu_count must be a multiple of 16.

Response

Table 6-19 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_id	No	String	Specifies the job ID returned when force is set to true .
queue_name	No	String	Name of the queue to be scaled in or out.
result	No	Boolean	Indicates the scaling result.

Example Request

- Restarting the queue:

```
{
  "action": "restart",
  "force": "false"
}
```

- Scaling out the queue:

```
{
  "action": "scale_out",
  "cu_count": 16
}
```

Example Response

- Set **force** to **false**.

```
{
  "is_success": true,
  "message": "Restart success"
}
```

- Set **force** to **true**.

```
{
  "is_success": true,
  "message": "Submit restart job success, it need some time to cancel jobs, please wait for a while and check job status",
  "job_id": "d90396c7-3a25-4944-ad1e-99c764d902e7"
}
```

- Scaling

```
{
  "queue_name": "myQueue",
  "result": true
}
```

Status Codes

[Table 6-20](#) describes the status code.

Table 6-20 Status codes

Status Code	Description
200	The operation is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

Table 6-21 Error codes

Error Code	Error Message
DLI.0015	Token info for token is null, return.
DLI.0013	X-Auth-Token is not defined in request. It is mandatory. Please define and send the request.

6.6 Creating a Scheduled CU Change

Function

This API is used to create a scheduled CU change, that is, to create a scheduled CU change for a specified queue.

URI

- URI format
POST /v1/{project_id}/queues/{queue_name}/plans
- Parameter description

Table 6-22 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Name of the queue for which you want to set a scheduled scaling plan. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_). The name contains 1 to 128 characters.

Request

Table 6-23 Request parameters

Parameter	Mandatory	Type	Description
plan_name	Yes	String	Name of a CU change. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_).
target_cu	Yes	Integer	Target value of the CU in the scheduled CU change.
start_hour	Yes	Integer	Specifies the start hour of the scheduled CU change.
start_minute	Yes	Integer	Specifies the start minute of a scheduled CU change.
repeat_day	Yes	Array of strings	Specifies the repetition period of a scheduled CU change. You can select one or more days from Monday to Sunday, or do not select any day. If this parameter is not specified, the scheduled CU change will be executed at the time specified by start_hour: start_minute after the current time. Example: <code>"repeat_day": ["MONDAY", "TUESDAY", "WEDNESDAY", "SUNDAY"]</code>
valid_date_begin	No	Long	Start time of the validity period (13-digit timestamp)
valid_date_end	No	Long	End time of the validity period (13-digit timestamp)

Parameter	Mandatory	Type	Description
activate	No	Boolean	Indicates whether the scheduled CU change is activated. The default value is true , indicating that the change is activated.

Response

Table 6-24 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

```
{
  "plan_name": "plan_A",
  "target_cu": 64,
  "start_hour": 20,
  "start_minute": 30,
  "repeat_day": [
    "MONDAY",
    "TUESDAY",
    "WEDNESDAY",
    "SUNDAY"
  ],
  "valid_date_begin": 1590949800000,
  "valid_date_end": 1591727400000,
  "activate": true
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

[Table 6-25](#) describes status codes.

Table 6-25 Status codes

Status Code	Description
200	Scheduled CU change created successfully.
400	Request failure.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

Table 6-26 Error codes

Error Code	Error Message
DLI.0999	Queue plans create failed. The plan plan_A can not generate a scale plan, please check all time settings for the plan.

6.7 Viewing a Scheduled CU Change

Function

This API is used to query the scheduled CU changes and list the changes of a specified queue.

URI

- URI format
GET /v1/{project_id}/queues/{queue_name}/plans
- Parameter description

Table 6-27 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
queue_name	Yes	String	Name of the queue for which the scheduled CU change is to be deleted. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names.

Request

None

Response

Table 6-28 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
plans	No	Array of Objects	Scheduled scaling plan information. For details, see Table 6-29 .

Table 6-29 plans parameters

Parameter	Mandatory	Type	Description
id	No	Long	ID of a scheduled CU change.
plan_name	No	String	Name of a CU change. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_).
target_cu	No	Integer	Target value of the CU in the scheduled CU change.
start_hour	No	Integer	Start hour of a queue scaling plan, in the 24-hour format.
start_minute	No	Integer	Specifies the start minute of a scheduled CU change.

Parameter	Mandatory	Type	Description
repeat_day	No	Array of strings	Specifies the repetition period of a scheduled CU change. You can select one or more days from Monday to Sunday, or do not select any day. If this parameter is not specified, the scheduled CU change will be executed at the time specified by start_hour: start_minute after the current time. Example: "repeat_day": ["MONDAY", "TUESDAY", "WEDNESDAY", "SUNDAY"]
valid_date_begin	No	Long	Start time of the validity period (13-digit timestamp)
valid_date_end	No	Long	End time of the validity period (13-digit timestamp)
activate	No	Boolean	Indicates whether the scheduled CU change is activated. The default value is true , indicating that the change is activated.
last_execute_time	No	Long	Time when the scaling plan was last executed.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "plans": [
    {
      "id": 1,
      "plan_name": "plan_Aa",
      "target_cu": 32,
      "start_hour": 11,
      "start_minute": 15,
      "repeat_day": [
        "MONDAY",
        "TUESDAY",
        "WEDNESDAY",
        "SUNDAY"
      ],
      "activate": true,
      "last_execute_time": 1593573428857
    },
    {
      "id": 6,
      "plan_name": "plan_Ab",
      "target_cu": 16,
      "start_hour": 14,
      "start_minute": 25,
      "repeat_day": [
        "MONDAY",

```

```
"TUESDAY",
"WEDNESDAY",
"SUNDAY",
"THURSDAY",
"FRIDAY",
"SATURDAY"
],
"activate": true,
"last_execute_time": 1593584829260
}
]
```

Status Codes

[Table 6-30](#) describes status codes.

Table 6-30 Status codes

Status Code	Description
200	The query is successful.
400	Request failure.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

Table 6-31 Error codes

Error Code	Error Message
DLI.0008	There is no queue named queue1.

6.8 Deleting Scheduled CU Changes in Batches

Function

This API is used to delete scheduled CU changes in batches.

URI

- URI format
POST /v1/{project_id}/queues/{queue_name}/plans/batch-delete
- Parameter description

Table 6-32 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Name of the queue for which the scheduled CU change is to be deleted. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names.

Request

Table 6-33 Request parameters

Parameter	Mandatory	Type	Description
plan_ids	Yes	Array of Long	Scaling policy IDs of the queues you want to delete. For details, see Viewing a Scheduled CU Change . Example: "plan_ids": [8,10]

Response

Table 6-34 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

```
{
  "plan_ids": [3,4]
}
```

Example Response

```
{
  "is_success": true,
```

```
"message": ""  
}
```

Status Codes

[Table 6-35](#) describes status codes.

Table 6-35 Status codes

Status Code	Description
200	Deletion succeeded.
400	Request failure.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

Table 6-36 Error codes

Error Code	Error Message
DLI.0002	The plans with id 8, 9 do not exist.

6.9 Deleting a Scheduled CU Change

Function

This API is used to delete a scheduled CU change for a queue with a specified ID.

URI

- URI format
DELETE /v1/{project_id}/queues/{queue_name}/plans/{plan_id}
- Parameter description

Table 6-37 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Name of the queue for which the scheduled CU change is to be deleted. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names.
plan_id	Yes	Long	ID of scheduled CU change to be deleted. For details about how to obtain the IDs, see Viewing a Scheduled CU Change .

Request

None

Response

Table 6-38 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

[Table 6-39](#) describes status codes.

Table 6-39 Status codes

Status Code	Description
200	The directory is successfully deleted.
400	Request failure.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

Table 6-40 Error codes

Error Code	Error Message
DLI.0002	The plan with id 8 does not exist.

6.10 Modifying a Scheduled CU Change

Function

This API is used to modify a scheduled CU change for a queue with a specified ID.

URI

- URI format
PUT /v1/{project_id}/queues/{queue_name}/plans/{plan_id}
- Parameter description

Table 6-41 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Name of the queue for which the scheduled CU change is to be modified. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names.

Parameter	Mandatory	Type	Description
plan_id	Yes	String	ID of scheduled CU change to be modified. Use commas (,) to separate multiple IDs. For details about how to obtain the IDs, see Viewing a Scheduled CU Change .

Request

Table 6-42 Request parameters

Parameter	Mandatory	Type	Description
plan_name	Yes	String	Name of a CU change. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_).
target_cu	Yes	Integer	Target value of the CU in the scheduled CU change.
start_hour	Yes	Integer	Specifies the start hour of the scheduled CU change.
start_minute	Yes	Integer	Specifies the start minute of a scheduled CU change.
repeat_day	Yes	Array of strings	Specifies the repetition period of a scheduled CU change. You can select one or more days from Monday to Sunday, or do not select any day. If this parameter is not specified, the scheduled CU change will be executed at the time specified by start_hour: start_minute after the current time. Example: "repeat_day": ["MONDAY", "TUESDAY", "WEDNESDAY", "SUNDAY"]
valid_date_begin	No	Long	Start time of the validity period (13-digit timestamp)
valid_date_end	No	Long	End time of the validity period (13-digit timestamp)
activate	No	Boolean	Indicates whether the scheduled CU change is activated. The default value is true , indicating that the change is activated.

Response

Table 6-43 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
queue_name	No	String	Name of the queue for which the scheduled CU change is to be modified. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names.
plan_id	No	String	ID of scheduled CU change to be modified. Use commas (,) to separate multiple IDs.

Example Request

```
{
  "plan_name": "plan_Ad",
  "target_cu": 64,
  "start_hour": 19,
  "start_minute": 30,
  "repeat_day": ["THURSDAY", "friday"],
  "activate": false
}
```

Example Response

```
{
  "is_success": true,
  "message": "",
  "queue_name": "queue1",
  "plan_id": 3
}
```

Status Codes

[Table 6-44](#) describes status codes.

Table 6-44 Status codes

Status Code	Description
200	The modification operations are successful.
400	Request failure.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

Table 6-45 Error codes

Error Code	Error Message
DLI.0999	Queue plans create failed. The plan plan_A can not generate a scale plan, please check all time settings for the plan.

7 APIs Related to SQL Jobs

7.1 Database-related APIs

7.1.1 Creating a Database

Function

This API is used to add a database.

URI

- URI format
POST /v1.0/{project_id}/databases
- Parameter description

Table 7-1 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request

Table 7-2 Request parameters

Parameter	Mandatory	Type	Description
database_name	Yes	String	<p>Name of the created database.</p> <ul style="list-style-type: none"> The database name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_). The database name is case insensitive and cannot be left blank. The length of the database name cannot exceed 128 characters. <p>NOTE The default database is a built-in database. You cannot create a database named default.</p>
description	No	String	Information about the created database.
enterprise_project_id	No	String	<p>Enterprise project ID. The value 0 indicates the default enterprise project.</p> <p>NOTE Users who have enabled Enterprise Management can set this parameter to bind a specified project.</p>
tags	No	Array of Objects	Database tag. For details, see Table 7-3 .

Table 7-3 tags parameters

Parameter	Mandatory	Type	Description
Key	Yes	String	Tag key.
value	Yes	String	Tag key.

Response

Table 7-4 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

```
{
  "database_name": "db1",
  "description": "this is for test"
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

[Table 7-5](#) describes the status code.

Table 7-5 Status codes

Status Code	Description
200	The job is created successfully.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.1.2 Deleting a Database

Function

This API is used to delete an empty database. If there are tables in the database to be deleted, delete all tables first. For details about the API used to delete tables, see [Deleting a Table](#).

URI

- URI format
DELETE /v1.0/{project_id}/databases/{database_name}
- Parameter description

Table 7-6 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	String	Name of the database to be deleted.

Table 7-7 query parameter description

Parameter	Mandatory	Type	Description
cascade	No	Boolean	Specifies whether to forcibly delete the database. The value can be true or false . Default value: false .
async	No	Boolean	Specifies whether to delete the database in asynchronous mode. The value can be true or false . Default value: false .

NOTE

The following is an example of the URL containing the **query** parameter:
DELETE /v1.0/{project_id}/databases/{database_name}?
cascade={is_cascade}&async={is_async}

Request

None

Response

Table 7-8 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_id	No	String	Returned job ID, which can be used to obtain the job status and result.
job_type	No	String	Type of a job. The options are as follows: <ul style="list-style-type: none"> • DDL • DCL • IMPORT • EXPORT • QUERY • INSERT
job_mode	No	String	Job execution mode. The options are as follows: <ul style="list-style-type: none"> • async: asynchronous • sync: synchronous

Example Request

None

Example Response

- The following is an example of a successful response in synchronous mode:

```
{
  "is_success": true,
  "message": "",
  "job_mode": "sync"
}
```
- The following is an example of a successful response in asynchronous mode:

```
{
  "is_success": true,
  "message": "",
  "job_id": "208b08d4-0dc2-4dd7-8879-ddd4c020d7aa",
  "job_type": "DDL",
  "job_mode": "async"
}
```

 NOTE

- If the database is deleted asynchronously, you can view the current job status by calling the API for querying job status. For details, see [Querying Job Status](#).
- If **cascade** is set to **true**, all tables in the database will be deleted. Exercise caution when performing this operation.

Status Codes

[Table 7-9](#) describes the status code.

Table 7-9 Status codes

Status Code	Description
200	Deletion succeeded.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.1.3 Querying All Databases

Function

This API is used to query the information about all the databases.

URI

- URI format
GET /v1.0/{project_id}/databases
- Parameter description

Table 7-10 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Table 7-11 query parameter description

Parameter	Mandatory	Type	Description
with-priv	No	Boolean	Specifies whether to display the permission information. The value can be true or false . The default value is false .
offset	No	Integer	The value should be no less than 0 . The default value is 0 .
limit	No	Integer	Number of returned data records. The value must be greater than or equal to 0 . By default, all data records are returned.
keyword	No	String	Database name filtering keyword. Fuzzy match is used to obtain all databases whose names contain the keyword.
tags	No	String	<p>Database tags. The format is key=value.</p> <ul style="list-style-type: none"> Request with one specified tag GET /v1.0/{project_id}/databases?offset=0&limit=10&with-priv=true&tags=k1%3Dv1 The equal sign (=) is escaped to %3D, k1 indicates the tag key, and v1 indicates the tag value. Request with more than one tag Use commas (,) to separate tags. The commas (,) must be escaped to %2C. For example: GET /v1.0/{project_id}/databases?offset=0&limit=10&with-priv=true&tags=k1%3Dv1%2Ck2%3Dv2 The equal sign (=) is escaped to %3D. k1 indicates a tag key, and v1 indicates the tag value. k2 indicates another tag key, and v2 indicates the tag value. <p>Currently, only fuzzy query is supported. Exact query is not supported.</p>

 **NOTE**

The following is an example of the URL containing the **query** parameter:

```
GET /v1.0/{project_id}/databases?with-priv={is_with_priv}&offset={offsetValue}&limit={limitValue}&keyword={keywordValue}&tags={tagsValue}
```

Request

None

Response

Table 7-12 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
database_count	No	Integer	Total number of databases.
databases	No	Array of objects	Database information. For details, see Table 7-13 .

Table 7-13 databases parameters

Parameter	Mandatory	Type	Description
database_name	No	String	Name of a database.
owner	No	String	Creator of a database.
table_number	No	Integer	Number of tables in a database.
description	No	String	Information about a database.
enterprise_project_id	Yes	String	Enterprise project ID. The value 0 indicates the default enterprise project. NOTE Users who have enabled Enterprise Management can set this parameter to bind a specified project.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "database_count": 1,
  "databases": [
    {
      "database_name": "db2",
      "description": "this is for test",
      "owner": "tenant1",
      "table_number": 15
    }
  ]
}
```

Status Codes

[Table 7-14](#) describes the status code.

Table 7-14 Status codes

Status Code	Description
200	The query is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.1.4 Modifying a Database Owner

Function

This API is used to modify the owner of a database.

URI

- URI format
PUT /v1.0/{project_id}/databases/{database_name}/owner
- Parameter description

Table 7-15 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	String	Name of a database.

Request

Table 7-16 Request parameters

Parameter	Mandatory	Type	Description
new_owner	Yes	String	Name of the new owner. The new user must be a sub-user of the current tenant.

Response

Table 7-17 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

```
{
  "new_owner": "scuser1"
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

[Table 7-18](#) describes the status code.

Table 7-18 Status codes

Status Code	Description
200	The modification operations are successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.2 Table-related APIs

7.2.1 Creating a Table

Function

This API is used to create a table.

URI

- URI format
POST /v1.0/{project_id}/databases/{database_name}/tables
- Parameter description

Table 7-19 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	String	Name of the database where the new table resides.

Request

Table 7-20 Request parameters

Parameter	Mandatory	Type	Description
table_name	Yes	String	<p>Name of the created table.</p> <ul style="list-style-type: none"> The table name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_). The table name is case insensitive and cannot be left unspecified. The table name can contain the dollar sign (\$). Example: \$test The length of the database name cannot exceed 128 characters.
data_location	Yes	String	<p>Location where data is stored. The options are as follows:</p> <ul style="list-style-type: none"> OBS: OBS table DLI: DLI table VIEW: VIEW table
description	No	String	Information about the new table.
columns	Yes	Array of Objects	<p>Columns of the new table. For details about column parameters, see Table 7-21. This parameter is optional when data_location is VIEW.</p>
select_statement	No	String	<p>Query statement required for creating a view. The database to which the table belongs needs to be specified in the query statement, in the format of <i>database.table</i>. This parameter is mandatory when data_location is VIEW.</p>
data_type	No	String	<p>Type of the data to be added to the OBS table. The options are as follows: Parquet, ORC, CSV, JSON, and Avro.</p> <p>NOTE This parameter is mandatory for an OBS table.</p>

Parameter	Mandatory	Type	Description
data_path	No	String	Storage path of data in the new OBS table, which must be a path on OBS and must begin with obs . NOTE This parameter is mandatory for an OBS table. Do not set this parameter to the OBS root directory. Otherwise, all data in the root directory will be cleared when you clear table data.
with_column_header	No	Boolean	Whether the table header is included in the OBS table data. Only data in CSV files has this attribute. This parameter is mandatory when data_location is OBS .
delimiter	No	String	User-defined data delimiter. Only data in CSV files has this attribute. This parameter is mandatory when data_location is OBS .
quote_char	No	String	User-defined reference character. Double quotation marks ("") are used by default. Only data in CSV files has this attribute. This parameter is mandatory when data_location is OBS .
escape_char	No	String	User-defined escape character. Backslashes (\\) are used by default. Only data in CSV files has this attribute. This parameter is mandatory when data_location is OBS .
date_format	No	String	User-defined date type. yyyy-MM-dd is used by default. For details about the characters involved in the date format, see Table 7-49 . Only data in CSV and JSON files has this attribute. This parameter is mandatory when data_location is OBS .
timestamp_format	No	String	User-defined timestamp type. yyyy-MM-dd HH:mm:ss is used by default. For definitions about characters in the timestamp format, see Table 7-49 . Only data in CSV and JSON files has this attribute. This parameter is mandatory when data_location is OBS .

Table 7-21 columns parameters

Parameter	Mandatory	Type	Description
column_name	Yes	String	Name of a column.
type	Yes	String	Data type of a column.
description	No	String	Description of a column.
is_partition_column	No	Boolean	Whether the column is a partition column. The value true indicates a partition column, and the value false indicates a non-partition column. The default value is false . NOTE When creating a partition table, ensure that at least one column in the table is a non-partition column. For details, see "Request example".

Response

Table 7-22 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

- Sample request when **data_location** is **OBS**.

```
{
  "table_name": "tb1",
  "data_location": "OBS",
  "description": "",
  "data_type": "csv",
  "data_path": "obs://obs/path1",
  "columns": [
    {
      "column_name": "column1",
      "type": "string",
      "description": "",
      "is_partition_column": true
    }
  ]
}
```

```

},
{
  "column_name": "column2",
  "type": "string",
  "description": "",
  "is_partition_column": false
}
],
"with_column_header": true,
"delimiter": ",",
"quote_char": "\"",
"escape_char": "\\\"",
"date_format": "yyyy-MM-dd",
"timestamp_format": "yyyy-MM-dd HH:mm:ss"
}

```

 **NOTE**

The values of **date_format** and **timestamp_format** must be the same as the time format in the imported CSV file.

- Sample request when **data_location** is **VIEW**.

```

{
  "table_name": "view1",
  "data_location": "VIEW",
  "columns": [
    {
      "column_name": "column1",
      "type": "string",
      "description": "",
      "is_partition_column": true
    },
    {
      "column_name": "column2",
      "type": "string",
      "description": "",
      "is_partition_column": false
    }
  ],
  "select_statement": "select * from db1.tb1"
}

```

Example Response

```

{
  "is_success": true,
  "message": ""
}

```

Status Codes

[Table 7-23](#) describes the status code.

Table 7-23 Status codes

Status Code	Description
200	The job is created successfully.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.2.2 Deleting a Table

Function

This API is used to delete a specified table.

URI

- URI format
DELETE /v1.0/{project_id}/databases/{database_name}/tables/{table_name}
- Parameter description

Table 7-24 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	String	Name of the database where the table to be deleted resides.
table_name	Yes	String	Name of the table to be deleted.

Table 7-25 query parameter description

Parameter	Mandatory	Type	Description
async	No	Boolean	Specifies whether to delete the database in asynchronous mode. The value can be true or false . Default value: false .

NOTE

The following is an example of the URL containing the **query** parameter:
DELETE /v1.0/{project_id}/databases/{database_name}/tables/{table_name}?
async={is_async}

Request

None

Response

Table 7-26 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_mode	No	String	Job execution mode. The options are as follows: <ul style="list-style-type: none">• async: asynchronous• sync: synchronous

Example Request

None

Example Response

```
{  
  "is_success": true,  
  "message": ""  
}
```

Status Codes

[Table 7-27](#) describes the status code.

Table 7-27 Status codes

Status Code	Description
200	Deletion succeeded.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.2.3 Querying All Tables (Recommended)

Function

This API is used to query information about tables that meet the filtering criteria or all the tables in the specified database.

URI

- URI format
GET /v1.0/{project_id}/databases/{database_name}/tables
- Parameter description

Table 7-28 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	String	Name of the database where the table resides.

Table 7-29 query parameter description

Parameter	Mandatory	Type	Description
keyword	No	String	Keywords used to filter table names.
with-detail	No	Boolean	Whether to obtain detailed information about tables (such as owner and size). The default value is false .
page-size	No	Integer	Paging size. The minimum value is 1 and the maximum value is 100 .
current-page	No	Integer	Current page number. The minimum value is 1 .
with-priv	No	Boolean	Whether to return permission information.
table-type	No	String	Database table type. The options are as follows: <ul style="list-style-type: none"> • MANAGED_TABLE: DLI table • EXTERNAL_TABLE: OBS table • VIRTUAL_VIEW: view

Parameter	Mandatory	Type	Description
datasource-type	No	String	Data source type. The options are as follows: <ul style="list-style-type: none"> • CSS • DLI • DWS • Geomesa • HBase • JDBC • Mongo • OBS • ODPS • OpenTSDB • Redis • RDS
without-tablemeta	No	Boolean	Whether to obtain the metadata of a table. The default value is false . If this parameter is set to true , the response speed can be greatly improved.

 NOTE

The following is an example of the URL containing the **query** parameter:
GET /v1.0/{project_id}/databases/{database_name}/tables?keyword=tb&with-detail=true

Request

None

Response

Table 7-30 Response parameters

Parameter	Mandatory	Type	Description
is_success	Yes	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	Yes	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Parameter	Mandatory	Type	Description
table_count	Yes	Integer	Total number of tables.
tables	Yes	Array of Objects	Table information. For details, see Table 7-31 .

Table 7-31 tables parameters

Parameter	Mandatory	Type	Description
create_time	Yes	Long	Time when a table is created. The timestamp is expressed in milliseconds.
data_type	No	String	Type of the data to be added to the OBS table. The options are as follows: Parquet, ORC, CSV, JSON, and Avro. NOTE This parameter is available only for OBS tables.
data_location	Yes	String	Data storage location, which can be DLI or OBS.
last_access_time	Yes	Long	Time when the table was last updated. The timestamp is expressed in milliseconds.
location	No	String	Storage path on the OBS table. NOTE This parameter is available only for OBS tables.
owner	Yes	String	Table owner.
table_name	Yes	String	Name of a table.
table_size	Yes	Long	Size of a table. The unit is byte.
table_type	Yes	String	Type of a table.
partition_columns	No	String	Partition field. This parameter is valid only for OBS partition tables.
page-size	No	Integer	Paging size. The minimum value is 1 and the maximum value is 100 .
current-page	No	Integer	Current page number. The minimum value is 1 .

 **NOTE**

If **with-detail** is set to **false** in the URI, only values of tables-related parameters **data_location**, **table_name**, and **table_type** are returned.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "table_count": 1,
  "tables": [
    {
      "create_time": 1517364268000,
      "data_location": "OBS",
      "data_type": "csv",
      "last_access_time": 1517364268000,
      "location": "obs://DLI/sqldata/data.txt",
      "owner": "test",
      "partition_columns": ["a0"],
      "table_name": "obs_t",
      "table_size": 0,
      "table_type": "EXTERNAL"
    }
  ]
}
```

Status Codes

[Table 7-32](#) describes the status code.

Table 7-32 Status codes

Status Code	Description
200	The query is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.2.4 Describing the Table Information

Function

This API is used to describe metadata information in the specified table.

URI

- URI format
GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}
- Parameter description

Table 7-33 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	String	Name of the database where the target table resides.
table_name	Yes	String	Name of the target table.

Request

None

Response

Table 7-34 Response parameters

Parameter	Mandatory	Type	Description
is_success	Yes	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	Yes	String	System prompt. If execution succeeds, the parameter setting may be left blank.
column_count	Yes	Integer	Total number of columns in the table.
columns	Yes	Array of Objects	Column information, including the column name, type, and description. For details, see Table 7-35 .
table_type	Yes	String	Table type. The options are as follows: MANAGED : DLI table EXTERNAL : OBS table VIEW : view
data_type	No	String	Data type, including CSV , Parquet , ORC , JSON , and Avro .
data_location	No	String	Path for storing data, which is an OBS path.

Parameter	Mandatory	Type	Description
storage_properties	No	Array of Objects	Storage attribute, which is in the format of key/value and includes parameters delimiter , escape , quote , header , dateformat , and timestampformat .
table_comment	No	String	Table comment.
create_table_sql	No	String	Statement used to create a table.

Table 7-35 columns parameters

Parameter	Mandatory	Type	Description
column_name	Yes	String	Column name.
description	Yes	String	Description of a column.
type	Yes	String	Data type of a column.
is_partition_column	Yes	Boolean	Indicates whether the column is a partition column. The value true indicates that the column is a partition column, and the value false indicates that the column is not a partition column. The default value is false .

Example Request

None

Example Response

- MANAGED** type table


```

{
  "is_success": true,
  "message": "",
  "column_count": 3,
  "columns": [
    {
      "column_name": "id",
      "description": "",
      "type": "int",
      "is_partition_column": false
    },
    {
      "column_name": "name",
      "description": "",
      "type": "string",

```

```

    "is_partition_column": false
  },
  {
    "column_name": "level",
    "description": "",
    "type": "string",
    "is_partition_column": true
  }
],
"table_type": "MANAGED"
}

```

- **EXTERNAL** type table

```

{
  "is_success": true,
  "message": "",
  "column_count": 2,
  "columns": [
    {
      "type": "string",
      "description": "",
      "column_name": "col2",
      "is_partition_column": false
    },
    {
      "type": "string",
      "description": "",
      "column_name": "col1",
      "is_partition_column": true
    }
  ],
  "table_type": "EXTERNAL",
  "data_type": "parquet",
  "data_location": "obs://obs-wangtao/savepoint/savepoint-d95437-039668840fff/_metadata",
  "storage_properties": [
    {
      "key": "timestampformat",
      "value": "yyyy-MM-dd HH:mm:ss"
    },
    {
      "key": "quote",
      "value": "\""
    },
    {
      "key": "dateformat",
      "value": "yyyy-MM-dd"
    },
    {
      "key": "escape",
      "value": "\\\"
    },
    {
      "key": "header",
      "value": "false"
    },
    {
      "key": "delimiter",
      "value": ","
    }
  ],
  "table_comment": "",
  "create_table_sql": "CREATE TABLE `default`.wan_test (`col2` STRING, `col1` STRING)\nUSING
parquet\nOPTIONS (\n `timestampformat` 'yyyy-MM-dd HH:mm:ss',\n `quote` '\"',\n `dateformat`
'yyyy-MM-dd',\n `escape` '\\\",\n `header` 'false',\n `delimiter` ',')\nPARTITIONED BY
(col1)\nCOMMENT ''\nLOCATION 'obs://obs-wangtao/savepoint/savepoint-d95437-039668840fff/
_metadata'\nTBLPROPERTIES (\n 'hive.serialization.extend.nesting.levels' = 'true'\n)\n"
}

```

- **VIEW** type table

```
{
  "is_success": true,
  "message": "",
  "column_count": 3,
  "columns": [
    {
      "column_name": "id",
      "description": "",
      "type": "int",
      "is_partition_column": false
    },
    {
      "column_name": "name",
      "description": "",
      "type": "string",
      "is_partition_column": false
    },
    {
      "column_name": "level",
      "description": "",
      "type": "string",
      "is_partition_column": true
    }
  ],
  "table_type": "VIEW",
  "create_table_sql": "CREATE VIEW `default`.`view1`(id, name) AS\nselect * from a_gff.testtable\n"
}
```

Status Codes

[Table 7-36](#) describes the status code.

Table 7-36 Status codes

Status Code	Description
200	The operation is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.2.5 Previewing Table Content

Function

This API is used to preview the first ten rows of a table.

URI

- URI format
GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/
preview

- Parameter description

Table 7-37 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	String	Name of the database where the table to be previewed resides.
table_name	Yes	String	Name of the table to be previewed.

Table 7-38 query parameter description

Parameter	Mandatory	Type	Description
mode	No	String	Preview table mode. The options are SYNC and ASYNC . The default value is SYNC .

 **NOTE**

The following is an example of the URL containing the **query** parameter:
GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/preview?mode={previewMode}

Request

None

Response

Table 7-39 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Parameter	Mandatory	Type	Description
schema	No	Array of objects	Column name and type of a table.
rows	No	Array of objects	Previewed table content.

Example Request

None

Example Response

The following is an example of a successful response in synchronous mode:

```
{
  "is_success": true,
  "message": "",
  "schema": [
    {
      "id": "int"
    },
    {
      "name": "string"
    },
    {
      "address": "string"
    }
  ],
  "rows": [
    [
      "1",
      "John",
      "xxx"
    ],
    [
      "2",
      "Lily",
      "xxx"
    ]
  ]
}
```

NOTE

In asynchronous request mode, a job ID is returned. You can obtain the preview information based on the job ID.

Status Codes

[Table 7-40](#) describes the status code.

Table 7-40 Status codes

Status Code	Description
200	The query is successful.

Status Code	Description
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.2.6 Obtaining the Partition List

Function

This API is used to obtain the partition list.

URI

- URI format
GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/partitions
- Parameter description

Table 7-41 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
database_name	Yes	String	Name of a database.
table_name	Yes	String	Name of a table.

Table 7-42 query parameter description

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of returned records displayed on each page. The default value is 100 .
offset	No	Integer	Offset.

Parameter	Mandatory	Type	Description
filter	No	String	Filtering condition. Currently, only the = condition is supported. For example, name=name1 indicates that the data whose name is name1 in the partition is filtered. name indicates the name of the partition column, and name1 indicates the value of the partition column. The key and value are case insensitive. Example: GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/partitions?part=part2

Request

None

Response

Table 7-43 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
partitions	No	Object	Partition information. For details, see Table 7-44 .

Table 7-44 partitions parameter description

Parameter	Mandatory	Type	Description
total_count	Yes	Long	Total number of partitions.
partition_infos	Yes	Array of Objects	List of partitions. For details, see Table 7-45 .

Table 7-45 partition_infos parameter description

Parameter	Mandatory	Type	Description
partition_name	Yes	String	Partition name.
create_time	Yes	Long	Time when a partition is created.
last_access_time	Yes	Long	Last update time.
locations	No	Array of Strings	Path.
last_ddl_time	No	Long	Execution time of the last DDL statement, in seconds.
num_rows	No	Long	Total rows in the partition.
num_files	No	Long	Number of files in a partition.
total_size	No	Long	Total size of data in the partition, in bytes.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "list partitions succeed",
  "partitions": {
    "total_count": 5,
    "partition_infos": [
      {
        "partition_name": "name=test",
        "create_time": 1579520179000,
        "last_access_time": 1579520179000,
        "locations": [
          "obs://test/partition"
        ]
      },
      {
        "partition_name": "name=test1",
        "create_time": 1579521406000,
        "last_access_time": 1579521406000,
        "locations": [
          "obs://test/partition"
        ]
      },
      {
        "partition_name": "name=test2",
        "create_time": 1579521884000,
        "last_access_time": 1579521884000,
        "locations": [
          "obs://test/partition"
        ]
      },
      {
        "partition_name": "name=test3",
```

```

    "create_time": 1579522085000,
    "last_access_time": 1579522085000,
    "locations": [
      "obs://test/partition"
    ]
  },
  {
    "partition_name": "name=name1/age=age1",
    "create_time": 1581409182000,
    "last_access_time": 1581409182000,
    "locations": [
      "obs://test/0117"
    ],
    "last_ddl_time": 1581409182,
    "total_size": 2130,
    "num_rows": -1,
    "num_files": 2
  }
]
}

```

Status Codes

[Table 7-46](#) describes the status code.

Table 7-46 Status codes

Status Code	Description
200	The operation is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.3 Job-related APIs

7.3.1 Importing Data

Function

This API is used to import data from a file to a DLI or OBS table. Currently, only OBS data can be imported to a DLI or OBS table.

 **NOTE**

- This API is asynchronous.
- When importing data, you can select an existing OBS bucket path or create an OBS bucket path, but only one OBS bucket path can be specified.
- If you need to create an OBS bucket, ensure that the bucket name complies with the following naming rules:
 - The name must be globally unique in OBS.
 - The name must contain 3 to 63 characters. Only lowercase letters, digits, hyphens (-), and periods (.) are allowed.
 - The name cannot start or end with a period (.) or hyphen (-), and cannot contain two consecutive periods (.) or contain a period (.) and a hyphen (-) adjacent to each other.
 - The name cannot be an IP address.
 - If the name contains any period (.), the security certificate verification may be triggered when you access the bucket or objects in the bucket.
- If the type of a column in the source file to be imported does not match that of the target table, the query result of the row will be null.
- Two or more concurrent tasks of importing data to the same table are not allowed.

URI

- URI format
POST /v1.0/{project_id}/jobs/import-table
- Parameter description

Table 7-47 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request

Table 7-48 Request parameters

Parameter	Mandatory	Type	Description
data_path	Yes	String	Path to the data to be imported. Currently, only OBS data can be imported.

Parameter	Mandatory	Type	Description
data_type	Yes	String	Type of the data to be imported. Currently, data types of CSV, Parquet, ORC, JSON, and Avro are supported. NOTE Data in Avro format generated by Hive tables cannot be imported.
database_name	Yes	String	Name of the database where the table to which data is imported resides.
table_name	Yes	String	Name of the table to which data is imported.
with_column_header	No	Boolean	Whether the first line of the imported data contains column names, that is, headers. The default value is false , indicating that column names are not contained. This parameter can be specified when CSV data is imported.
delimiter	No	String	User-defined data delimiter. The default value is a comma (,). This parameter can be specified when CSV data is imported.
quote_char	No	String	User-defined quotation character. The default value is double quotation marks ("). This parameter can be specified when CSV data is imported.
escape_char	No	String	User-defined escape character. The default value is a backslash (\). This parameter can be specified when CSV data is imported.
date_format	No	String	Specified date format. The default value is yyyy-MM-dd . For details about the characters involved in the date format, see Table 7-49 . This parameter can be specified when data in the CSV or JSON format is imported.
bad_records_path	No	String	Bad records storage directory during job execution. After configuring this item, the bad records is not imported into the target table.
timestamp_format	No	String	Specified time format. The default value is yyyy-MM-dd HH:mm:ss . For definitions about characters in the time format, see Table 7-49 . This parameter can be specified when data in the CSV or JSON format is imported.
queue_name	No	String	Name of the queue that is specified to execute a task. If no queue is specified, the default queue is used.

Parameter	Mandatory	Type	Description
overwrite	No	Boolean	Whether to overwrite data. The default value is false , indicating appending write. If the value is true , it indicates overwriting.
partition_spec	No	Object	Partition to which data is to be imported. <ul style="list-style-type: none"> If this parameter is not set, the entire table data is dynamically imported. The imported data must contain the data in the partition column. If this parameter is set and all partition information is configured during data import, data is imported to the specified partition. The imported data cannot contain data in the partition column. If not all partition information is configured during data import, the imported data must contain all non-specified partition data. Otherwise, abnormal values such as null exist in the partition field column of non-specified data after data import.
conf	No	Array of Strings	User-defined parameter that applies to the job. Currently, dli.sql.dynamicPartitionOverwrite.enabled can be set to false by default. If it is set to true , data in a specified partition is overwritten. If it is set to false , data in the entire DataSource table is dynamically overwritten. NOTE For dynamic overwrite of Hive partition tables, only the involved partition data can be overwritten. The entire table data cannot be overwritten.

Table 7-49 Definition of characters involved in the date and time patterns

Character	Date or Time Element	Example
G	Epoch ID	AD
y	Year	1996; 96
M	Month	July; Jul; 07
w	Which week in a year	27 (Week 27 in the year)
W	Which week in a month	2 (Second week in the month)

Character	Date or Time Element	Example
D	Which day in a year	189 (Day 189 in the year)
d	Which day in a month	10 (Day 10 in the month)
u	Which day in a week	1 (Monday), ..., 7 (Sunday)
a	am/pm flag	pm (Afternoon)
H	Hour time (0-23)	2
h	Hour time (1-12)	12
m	Minute time	30
s	Second time	55
S	Which milliseconds	978
z	Time zone	Pacific Standard Time; PST; GMT-08:00

Response

Table 7-50 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully sent. Value true indicates that the request is successfully sent.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_id	No	String	ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results.
job_mode	No	String	Job execution mode. The options are as follows: <ul style="list-style-type: none"> • async: asynchronous • sync: synchronous

Example Request

```
{
  "data_path": "obs://home/data1/DLI/t1.csv",
  "data_type": "csv",
  "database_name": "db2",
  "table_name": "t2",
  "with_column_header": false,
  "delimiter": ",",
  "quote_char": "\"",
  "escape_char": "\"",
  "date_format": "yyyy-MM-dd",
  "timestamp_format": "yyyy-MM-dd'T'HH:mm:ss.SSSZ",
  "queue_name": "queue2",
  "overwrite": false,
  "partition_spec": {
    "column1": "2020-01-01",
    "column2": "columnPartValue"
  }
}
```

Example Response

```
{
  "is_success": true,
  "message": "import data to table t2 started",
  "job_id": "6b29eb77-4c16-4e74-838a-2cf7959e9202",
  "job_mode": "async"
}
```

Status Codes

[Table 7-51](#) describes the status code.

Table 7-51 Status codes

Status Code	Description
200	Import succeeded.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.3.2 Exporting Data

Function

This API is used to export data from a table to a file.

 NOTE

- This API is asynchronous.
- Currently, data can be exported only from a table to OBS, and the OBS path must be specified to the folder level. The OBS path cannot contain commas (.). The OBS bucket name cannot end with the regular expression format **.[0-9]+(.*)**. Specifically, if the bucket name contains dots (.), the last dot (.) cannot be followed by a digit, for example, ****12abc** and ****12.**
- Data can be exported across accounts. That is, after account B authorizes account A, account A can export data to the OBS path of account B if account A has the permission to read the metadata and permission information about the OBS bucket of account B and read and write the path.

URI

- URI format
POST /v1.0/{project_id}/jobs/export-table
- Parameter description

Table 7-52 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request

Table 7-53 Request parameters

Parameter	Mandatory	Type	Description
data_path	Yes	String	Path for storing the exported data. Currently, data can be stored only on OBS. If export_mode is set to errorifexists , the OBS path cannot contain the specified folder, for example, the test folder in the example request.
data_type	Yes	String	Type of data to be exported. Currently, only CSV and JSON are supported.
database_name	Yes	String	Name of the database where the table from which data is exported resides.
table_name	Yes	String	Name of the table from which data is exported.

Parameter	Mandatory	Type	Description
compress	Yes	String	Compression mode for exported data. Currently, the compression modes gzip , bzip2 , and deflate are supported. If you do not want to compress data, enter none .
queue_name	No	String	Name of the queue that is specified to execute a task. If no queue is specified, the default queue is used.
export_mode	No	String	Export mode. The parameter value can be ErrorIfExists or Overwrite . If export_mode is not specified, this parameter is set to ErrorIfExists by default. <ul style="list-style-type: none"> • ErrorIfExists: Ensure that the specified export directory does not exist. If the specified export directory exists, an error is reported and the export operation cannot be performed. • Overwrite: If you add new files to a specific directory, existing files will be deleted.
with_column_header	No	Boolean	Whether to export column names when exporting CSV and JSON data. <ul style="list-style-type: none"> • If this parameter is set to true, the column names are exported. • If this parameter is set to false, the column names are not exported. • If this parameter is left blank, the default value false is used.

Response

Table 7-54 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully sent. Value true indicates that the request is successfully sent.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_id	No	String	ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results.

Parameter	Mandatory	Type	Description
job_mode	No	String	Job execution mode. The options are as follows: <ul style="list-style-type: none"> async: asynchronous sync: synchronous

Example Request

```
{
  "data_path": "obs://home/data1/DLI/test",
  "data_type": "json",
  "database_name": "db2",
  "table_name": "t2",
  "compress": "gzip",
  "with_column_header": "true",
  "queue_name": "queue2"
}
```

Example Response

```
{
  "is_success": true,
  "message": "export all data from table db2.t2 to path obs://home/data1/DLI/test started",
  "job_id": "828d4044-3d39-449b-b32c-957f7cfadfc9",
  "job_mode": "async"
}
```

Status Codes

[Table 7-55](#) describes the status code.

Table 7-55 Status codes

Status Code	Description
200	Export successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.3.3 Submitting a SQL Job (Recommended)

Function

This API is used to submit jobs to a queue using SQL statements.

The job types support DDL, DCL, IMPORT, QUERY, and INSERT. Functions of IMPORT and EXPORT are the same as those described in [Importing Data](#). The difference lies in the implementation method.

Additionally, you can use other APIs to query and manage jobs. For details, see the following sections:

- [Querying Job Status](#)
- [Querying Job Details](#)
- [Exporting Query Results](#)
- [Querying All Jobs](#)
- [Canceling a Job \(Recommended\)](#)

 NOTE

This API is synchronous if **job_type** in the response message is **DCL**.

URI

- URI format
POST /v1.0/{project_id}/jobs/submit-job
- Parameter description

Table 7-56 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request

Table 7-57 Request parameters

Parameter	Mandatory	Type	Description
sql	Yes	String	SQL statement that you want to execute.
currentdb	No	String	Database where the SQL statement is executed. This parameter does not need to be configured during database creation.
queue_name	No	String	Name of the queue to which a job to be submitted belongs. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_).

Parameter	Mandatory	Type	Description
conf	No	Array of Strings	You can set the configuration parameters for the SQL job in the form of Key/Value . For details about the supported configuration items, see Table 7-58 .
tags	No	Array of Objects	Label of a job. For details, see Table 7-59 .

Table 7-58 Configuration parameters description

Parameter	Default Value	Description
spark.sql.files.maxRecordsPerFile	0	Maximum number of records to be written into a single file. If the value is zero or negative, there is no limit.
spark.sql.autoBroadcastJoinThreshold	209715200	Maximum size of the table that displays all working nodes when a connection is executed. You can set this parameter to -1 to disable the display. NOTE Currently, only the configuration unit metastore table that runs the ANALYZE TABLE COMPUTE statistics noscan command and the file-based data source table that directly calculates statistics based on data files are supported.
spark.sql.shuffle.partitions	200	Default number of partitions used to filter data for join or aggregation.
spark.sql.dynamicPartitionOverwrite.enabled	false	Whether DLI overwrites the partitions where data will be written into during runtime. If you set this parameter to false , all partitions that meet the specified condition will be deleted before data overwrite starts. For example, if you set false and use INSERT OVERWRITE to write partition 2021-02 to a partitioned table that has the 2021-01 partition, this partition will be deleted. If you set this parameter to true , DLI does not delete partitions before overwrite starts.
spark.sql.files.maxPartitionBytes	134217728	Maximum number of bytes to be packed into a single partition when a file is read.
spark.sql.badRecordsPath	-	Path of bad records.

Parameter	Default Value	Description
dli.sql.sqlasync.enabled	false	Indicates whether DDL and DCL statements are executed asynchronously. The value true indicates that asynchronous execution is enabled.
dli.sql.job.timeout	-	Sets the job running timeout interval. If the timeout interval expires, the job is canceled. Unit: ms.

Table 7-59 tags parameters

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key.
value	Yes	String	Tag value

Response

Table 7-60 Response parameters

Parameter	Mandatory	Type	Description
is_success	Yes	Boolean	Indicates whether the request is successfully sent. Value true indicates that the request is successfully sent.
message	Yes	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_id	Yes	String	ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results.
job_type	Yes	String	Type of a job. Job types include the following: <ul style="list-style-type: none"> • DDL • DCL • IMPORT • EXPORT • QUERY • INSERT

Parameter	Mandatory	Type	Description
schema	No	Array of objects	If the statement type is DDL, the column name and type of DDL are displayed.
rows	No	Array of objects	When the statement type is DDL, results of the DDL are displayed.
job_mode	No	String	Job execution mode. The options are as follows: <ul style="list-style-type: none"> • async: asynchronous • sync: synchronous

Example Request

```
{
  "currentdb": "db1",
  "sql": "desc table1",
  "queue_name": "default",
  "conf": [
    "dli.sql.shuffle.partitions = 200"
  ],
  "tags": [
    {
      "key": "workspace",
      "value": "space1"
    },
    {
      "key": "jobName",
      "value": "name1"
    }
  ]
}
```

Example Response

```
{
  "is_success": true,
  "message": "",
  "job_id": "8ecb0777-9c70-4529-9935-29ea0946039c",
  "job_type": "DDL",
  "job_mode": "sync",
  "schema": [
    {
      "col_name": "string"
    },
    {
      "data_type": "string"
    },
    {
      "comment": "string"
    }
  ],
  "rows": [
    [
      "c1",
      "int",
      null
    ],
    [
      "c2",

```



```
"string",
null
]
]
}
```

Status Codes

[Table 7-61](#) describes the status code.

Table 7-61 Status codes

Status Code	Description
200	Submitted successfully.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.3.4 Canceling a Job (Recommended)

Function

This API is used to cancel a submitted job. If execution of a job completes or fails, this job cannot be canceled.

URI

- URI format
DELETE /v1.0/{project_id}/jobs/{job_id}
- Parameter description

Table 7-62 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
job_id	Yes	String	Job ID. You can get the value by calling Submitting a SQL Job (Recommended) .

Request

None

Response

Table 7-63 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

[Table 7-64](#) describes the status code.

Table 7-64 Status codes

Status Code	Description
200	Canceled.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.3.5 Querying All Jobs

Function

This API is used to query information about all jobs in the current project.

URI

- URI format
GET /v1.0/{project_id}/jobs
- Parameter description

Table 7-65 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Table 7-66 query parameter description

Parameter	Mandatory	Type	Description
page-size	No	Integer	Maximum number of jobs displayed on each page. The value range is as follows: [1, 100]. The default value is 50 .
current-page	No	Integer	Current page number. The default value is 1 .
start	No	Long	Queries the jobs executed later than the time specified by this parameter. The time is a UNIX timestamp in milliseconds.
end	No	Long	Queries the jobs executed earlier than the time specified by this parameter. The time is a UNIX timestamp in milliseconds.
job-type	No	String	Type of a job to be queried. Job types include DDL, DCL, IMPORT, EXPORT, QUERY, INSERT, DATA_MIGRATION, UPDATE, DELETE, RESTART_QUEUE , and SCALE_QUEUE . To query all types of jobs, enter ALL .
job-status	No	String	Status of the job to be queried.

Parameter	Mandatory	Type	Description
job-id	No	String	ID of the job to be queried. You can get the value by calling Submitting a SQL Job (Recommended) .
queue_name	No	String	Specifies queue_name as the filter to query jobs running on the specified queue.
sql_pattern	No	String	Specifies the SQL segment as the filter. It is case insensitive.
order	No	String	Specifies the job sorting mode. The default value is start_time_desc (job submission time in descending order). Four sorting modes are supported: duration_desc (job running duration in descending order), duration_asc (job running duration in ascending order), start_time_desc (job submission time in descending order), and start_time_asc (job submission time in ascending order).
engine-type	No	String	Engine type.
owner	No	String	User who submits a job.
tags	No	String	<p>Queue tags for the search. You can specify multiple tags in key=value format.</p> <ul style="list-style-type: none"> Request with one specified tag For example, GET /v1.0/{project_id}/jobs?tags=k1%3Dv1 In this example, = needs to be escaped to %3D, k1 indicates the tag key, and v1 indicates the tag value. Request with more than one tag Separate tags with commas (,) and convert the commas (,) to %2C, for example, GET /v1.0/{project_id}/jobs?.tags=k1%3Dv1%2Ck2%3Dv2. The equal sign (=) is escaped to %3D. k1 indicates a tag key, and v1 indicates the tag value. k2 indicates another tag key, and v2 indicates the tag value. <p>Currently, only fuzzy query is supported. Exact query is not supported.</p>

 **NOTE**

The following is an example of the URL containing the **query** parameter:

```
GET /v1.0/{project_id}/jobs?page-size={size}&current-page={page_number}&start={start_time}&end={end_time}&job-type={QUERY}&queue_name={test}&order={duration_desc}
```

Request

None

Response

Table 7-67 Response parameters

Parameter	Mandatory	Type	Description
is_success	Yes	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	Yes	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_count	Yes	Integer	Indicates the total number of jobs.
jobs	Yes	Array of Objects	Indicates the information about a job. For details, see Table 7-68 .

Table 7-68 jobs parameters

Parameter	Mandatory	Type	Description
job_id	Yes	String	Job ID.
job_type	Yes	String	Type of a job.
queue_name	Yes	String	Queue to which a job is submitted.
owner	Yes	String	User who submits a job.
start_time	Yes	Long	Time when a job is started. The timestamp is expressed in milliseconds.
duration	Yes	Long	Job running duration (unit: millisecond).
status	Yes	String	Status of a job, including LAUNCHING , RUNNING , FINISHED , FAILED , and CANCELLED .

Parameter	Mandatory	Type	Description
input_row_count	No	Long	Number of records scanned during the Insert job execution.
bad_row_count	No	Long	Number of error records scanned during the Insert job execution.
input_size	Yes	Long	Size of scanned files during job execution.
result_count	Yes	Integer	Total number of records returned by the current job or total number of records inserted by the Insert job.
database_name	No	String	Name of the database where the target table resides. database_name is valid only for jobs of the Import and Export types.
table_name	No	String	Name of the target table. table_name is valid only for jobs of the Import and Export types.
with_column_header	No	Boolean	Import jobs, which record whether the imported data contains column names.
detail	Yes	String	JSON character string of related columns queried by using SQL statements.
statement	Yes	String	SQL statements of a job.
message	No	String	System prompt
end_time	No	Long	Job end time. The timestamp is in milliseconds.
tags	No	Array of Objects	Job tags. For details, see Table 7-69 .

Table 7-69 tags parameters

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key
value	Yes	String	Tag value

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "job_count": 1,
  "jobs": [
    {
      "detail": "{\"type\":\"struct\",\"fields\": [{\"name\":\"name\",\"type\":\"string\",\"nullable\":true,
      \"metadata\":{}},{\"name\":\"age\",\"type\":\"integer\",\"nullable\":true,\"metadata\":{}}]\",
      \"duration\": 17731,
      \"end_time\": 1502349821460,
      \"input_size\": 0,
      \"job_id\": \"37286cc7-0508-4ffd-b636-951c8a5c75de\",
      \"job_type\": \"QUERY\",
      \"message\": \"\",
      \"owner\": \"tenant1\",
      \"queue_name\": \"queue1\",
      \"result_count\": 3,
      \"start_time\": 1502349803729,
      \"statement\": \"select * from t_json_002\",
      \"status\": \"FINISHED\",
      \"with_column_header\": false
    }
  ]
}
```

Status Codes

[Table 7-70](#) describes the status code.

Table 7-70 Status codes

Status Code	Description
200	The query is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.3.6 Previewing SQL Job Query Results

Function

This API is used to view the job execution result after a job is executed using SQL query statements. Currently, you can only query execution results of jobs of the **QUERY** type.

This API can be used to view only the first 1000 result records and does not support pagination query. To view all query results, you need to export the query results first. For details, see [Exporting Query Results](#).

URI

- URI format
GET /v1.0/{project_id}/jobs/{job_id}/preview
- Parameter description

Table 7-71 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
job_id	Yes	String	Job ID

Table 7-72 query parameter description

Parameter	Mandatory	Type	Description
page-size	No	Long	Number of result rows. The value ranges from 1 to 1000. The default rate limit is 1000 .
queue-name	No	String	Name of the execution queue for obtaining job results. If this parameter is not specified, the default system queue is used.

NOTE

The following is an example of the URL containing the **query** parameter:
GET /v1.0/{project_id}/jobs/{job_id}/preview?page-size={size}&queue-name={queue_name}

Request

None

Response

Table 7-73 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_id	No	String	Job ID You can get the value by calling Submitting a SQL Job (Recommended) .
job_type	No	String	Job type, including DDL, DCL, IMPORT, EXPORT, QUERY, INSERT, DATA_MIGRATION, UPDATE, DELETE, RESTART_QUEUE and SCALE_QUEUE . Currently, you can only query execution results of jobs of the QUERY type.
row_count	No	Integer	Total number of job results.
input_size	No	long	Amount of data scanned during job execution.
schema	No	Array of Objects	Name and type of the job result column.
rows	No	Array of Strings	Job results set.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "job_id": "ead0b276-8ed4-4eb5-b520-58f1511e7033",
  "job_type": "QUERY",
  "row_count": 1,
  "input_size": 74,
  "schema": [
    {
      "c1": "int"
    },
    {
      "c2": "string"
    }
  ],
}
```

```
"rows": [
  [
    23,
    "sda"
  ]
]
```

Status Codes

[Table 7-74](#) describes the status code.

Table 7-74 Status codes

Status Code	Description
200	The query is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.3.7 Querying Job Status

Function

This API is used to query the status of a submitted job.

URI

- URI format
GET /v1.0/{project_id}/jobs/{job_id}/status
- Parameter description

Table 7-75 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
job_id	Yes	String	Job ID.

Request

None

Response

Table 7-76 Response parameters

Parameter	Mandatory	Type	Description
is_success	Yes	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	Yes	String	System prompt. If execution succeeds, this parameter is left blank.
job_id	Yes	String	Job ID. You can get the value by calling Submitting a SQL Job (Recommended) .
job_type	Yes	String	Type of a job, Includes DDL, DCL, IMPORT, EXPORT, QUERY, INSERT, DATA_MIGRATION, UPDATE, DELETE, RESTART_QUEUE and SCALE_QUEUE .
job_mode	Yes	String	Job execution mode. The options are as follows: <ul style="list-style-type: none"> • async: asynchronous • sync: synchronous
queue_name	Yes	String	Name of the queue where the job is submitted.
owner	Yes	String	User who submits a job.
start_time	Yes	Long	Time when a job is started. The timestamp is in milliseconds.
duration	No	Long	Job running duration (unit: millisecond).
status	Yes	String	Status of a job, including RUNNING, SCALING, LAUNCHING, FINISHED, FAILED, and CANCELLED .
input_row_count	No	Long	Number of records scanned during the Insert job execution.
bad_row_count	No	Long	Number of error records scanned during the Insert job execution.
input_size	Yes	Long	Size of scanned files during job execution (unit: byte).

Parameter	Mandatory	Type	Description
result_count	Yes	Integer	Total number of records returned by the current job or total number of records inserted by the Insert job.
database_name	No	String	Name of the database where the target table resides. database_name is valid only for jobs of the IMPORT EXPORT , and QUERY types.
table_name	No	String	Name of the target table. table_name is valid only for jobs of the IMPORT EXPORT , and QUERY types.
detail	Yes	String	JSON character string for information about related columns.
statement	Yes	String	SQL statements of a job.
tags	No	Array of objects	Job tags. For details, see Table 7-77 .

Table 7-77 tags parameters

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key
value	Yes	String	Tag value

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "job_id": "208b08d4-0dc2-4dd7-8879-ddd4c020d7aa",
  "job_type": "QUERY",
  "job_mode": "async",
  "queue_name": "default",
  "owner": "test",
  "start_time": 1509335108918,
  "duration": 2523,
  "status": "FINISHED",
  "input_size": 22,
  "result_count": 4,
  "database_name": "dbtest",
  "table_name": "tbtest",
  "detail": "{\n  \"type\": \"struct\", \"fields\": [\n    {\n      \"name\": \"id\", \"type\": \"integer\", \"nullable\": true, \"metadata\": {\n    }\n    },\n    {\n      \"name\": \"name\", \"type\": \"string\", \"nullable\": true, \"metadata\": {\n    }\n    }\n  ]\n}"
```

```
"statement": "select * from t1"  
}
```

Status Codes

[Table 7-78](#) describes the status code.

Table 7-78 Status codes

Status Code	Description
200	The query is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

7.3.8 Querying Job Details

Function

This API is used to query details about jobs, including **database name**, **table name**, **file size**, and **export mode**.

URI

- URI format
GET/v1.0/{project_id}/jobs/{job_id}/detail
- Parameter description

Table 7-79 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
job_id	Yes	String	Job ID. You can get the value by calling Submitting a SQL Job (Recommended) .

Request

None

Response

Table 7-80 Response parameters

Parameter	Mandatory	Type	Description
is_success	Yes	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	Yes	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_id	Yes	String	Job ID.
owner	Yes	String	User who submits a job.
start_time	Yes	Long	Time when a job is started. The timestamp is in milliseconds.
duration	Yes	Long	Duration for executing the job (unit: millisecond).
export_mode	No	String	Specified export mode during data export and query result saving. Available values are ErrorIfExists and Overwrite . <ul style="list-style-type: none">● ErrorIfExists: Ensure that the specified export directory does not exist. If the specified export directory exists, an error is reported and the export operation cannot be performed.● Overwrite: If you add new files to a specific directory, existing files will be deleted.
data_path	Yes	String	Path to imported or exported files.
data_type	Yes	String	Type of data to be imported or exported. Currently, only CSV and JSON are supported.
database_name	Yes	String	Name of the database where the table, where data is imported or exported, resides.
table_name	Yes	String	Name of the table where data is imported or exported.
with_column_header	No	Boolean	Whether the imported data contains the column name during the execution of an import job.

Parameter	Mandatory	Type	Description
delimiter	No	String	User-defined data delimiter set when the import job is executed.
quote_char	No	String	User-defined quotation character set when the import job is executed.
escape_char	No	String	User-defined escape character set when the import job is executed.
date_format	No	String	Table date format specified when the import job is executed.
timestamp_format	No	String	Table time format specified when the import job is executed.
compress	No	String	Compression mode specified when the export job is executed.
tags	No	Array of objects	Job tags. For details, see Table 7-81 .

Table 7-81 tags parameter

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key
value	Yes	String	Tag value

Example Request

None

Example Response

- Querying jobs of the **Import** type

```
{
  "is_success": true,
  "message": "",
  "data_path": "obs://DLI/computeCharging/test.csv",
  "data_type": "json",
  "database_name": "iam_exist",
  "date_format": "yyyy-MM-dd",
  "delimiter": ",",
  "duration": 1623,
  "escape_char": "\\ ",
  "job_id": "a85d7298-ecef-47f9-bb31-499d2099d112",
  "owner": "iam_exist",
  "quote_char": "\"",
  "start_time": 1517385246111,
  "table_name": "DLI_table20",
  "timestamp_format": "yyyy-MM-dd HH:mm:ss",
```

- ```

"with_column_header": false
}

```
- Query jobs of the **Export** type

```

{
 "is_success": true,
 "message": "",
 "compress": "none",
 "data_path": "obs://xxx/dli/path6",
 "data_type": "json",
 "database_name": "submitjob",
 "duration": 4142,
 "export_mode": "Overwrite",
 "job_id": "b89fccb2-de6a-4c6c-b9b2-21f08a2eb85e",
 "owner": "test",
 "start_time": 1524107798024,
 "table_name": "autotest"
}

```

## Status Codes

[Table 7-82](#) describes the status code.

**Table 7-82** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 7.3.9 Checking SQL Syntax

### Function

This API is used to check the SQL syntax.

### URI

- URI format  
POST /v1.0/{project\_id}/jobs/check-sql
- Parameter description



**Table 7-83** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 7-84** Request parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sql        | Yes       | String | SQL statement that you want to execute.                                                                                                                                                                                                                                                                                                                                                                                    |
| current_db | No        | String | Database where the SQL statement is executed.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>If the SQL statement contains <b>db_name</b>, for example, <i>select * from db1.t1</i>, you do not need to set this parameter.</li> <li>If the SQL statement does not contain <b>db_name</b>, the semantics check will fail when you do not set this parameter or set this parameter to an incorrect value.</li> </ul> |

## Response

**Table 7-85** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| job_type   | No        | String  | Type of a job. Job types include the following: <b>DDL, DCL, IMPORT, EXPORT, QUERY, and INSERT</b> .                           |

## Example Request

```
{
 "currentdb": "db1",
```

```
"sql": "select * from t1"
}
```

## Example Response

```
{
 "is_success": true,
 "message": "the sql is ok",
 "job_type": "QUERY"
}
```

## Status Codes

[Table 7-86](#) describes the status code.

**Table 7-86** Status codes

| Status Code | Description                |
|-------------|----------------------------|
| 200         | The request is successful. |
| 400         | Request error.             |
| 500         | Internal service error.    |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 7.3.10 Exporting Query Results

### Function

This API is used to export results returned from the query using SQL statements to OBS. Only the query result of **QUERY** jobs can be exported.

#### NOTE

- This API is asynchronous.
- Currently, data can be exported only to OBS, and the OBS path must be specified to the folder level. The OBS path cannot contain commas (.). The OBS bucket name cannot end with the regular expression format "[0-9]+(.\*).". Specifically, if the bucket name contains dots (.), the last dot (.) cannot be followed by a digit, for example, "\*\*\*.12abc" and "\*\*\*.12".

### URI

- URI format  
POST /v1.0/{project\_id}/jobs/{job\_id}/export-result
- Parameter description

**Table 7-87** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | String | Job ID.                                                                                                                                   |

## Request

**Table 7-88** Request parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| data_path   | Yes       | String | Path for storing the exported data. Currently, data can be stored only on OBS. The OBS path cannot contain folders, for example, the <b>path</b> folder in the sample request.                                                                                                                                                                                                                                                                                                                                                                 |
| compress    | No        | String | Compression format of exported data. Currently, <b>gzip</b> , <b>bzip2</b> , and <b>deflate</b> are supported. The default value is <b>none</b> , indicating that data is not compressed.                                                                                                                                                                                                                                                                                                                                                      |
| data_type   | Yes       | String | Storage format of exported data. Currently, only CSV and JSON are supported.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| queue_name  | No        | String | Name of the queue that is specified to execute a task. If no queue is specified, the default queue is used.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| export_mode | No        | String | Export mode. The parameter value can be <b>ErrorIfExists</b> or <b>Overwrite</b> . If <b>export_mode</b> is not specified, this parameter is set to <b>ErrorIfExists</b> by default. <ul style="list-style-type: none"><li>• <b>ErrorIfExists</b>: Ensure that the specified export directory does not exist. If the specified export directory exists, an error is reported and the export operation cannot be performed.</li><li>• <b>Overwrite</b>: If you add new files to a specific directory, existing files will be deleted.</li></ul> |

| Parameter          | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| with_column_header | No        | Boolean | Whether to export column names when exporting CSV and JSON data. <ul style="list-style-type: none"> <li>If this parameter is set to <b>true</b>, the column names are exported.</li> <li>If this parameter is set to <b>false</b>, the column names are not exported.</li> <li>If this parameter is left blank, the default value <b>false</b> is used.</li> </ul> |
| limit_num          | No        | Integer | Number of data records to be exported. The default value is <b>0</b> , indicating that all data records are exported.                                                                                                                                                                                                                                              |
| encoding_type      | No        | String  | Format of the data to be exported. The value can be <b>utf-8</b> , <b>gb2312</b> , or <b>gbk</b> . Value <b>utf-8</b> will be used if this parameter is left empty.                                                                                                                                                                                                |

## Response

**Table 7-89** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                    |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Yes       | Boolean | Indicates whether the request is successfully sent. Value <b>true</b> indicates that the request is successfully sent.                                         |
| message    | Yes       | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                 |
| job_id     | No        | String  | ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results.               |
| job_mode   | No        | String  | Job execution mode. The options are as follows: <ul style="list-style-type: none"> <li><b>async</b>: asynchronous</li> <li><b>sync</b>: synchronous</li> </ul> |

## Example Request

```
{
 "data_path": "obs://obs-bucket1/path",
 "data_type": "json",
```

```
"compress": "gzip",
"with_column_header": "true",
"queue_name": "queue2",
"limit_num": 10
}
```

## Example Response

```
{
 "is_success": true,
 "message": "",
 "job_id": "37a40ef9-86f5-42e6-b4c6-8febec89cc20",
 "job_mode": "async"
}
```

## Status Codes

[Table 7-90](#) describes the status code.

**Table 7-90** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Export successful.      |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 7.3.11 Querying the Job Execution Progress

### Function

This API is used to obtain the job execution progress. If a job is being executed, information about its subjobs can be obtained. If a job has just started or has ended, information about its subjobs cannot be obtained.

### URI

- URI format  
GET /v1/{project\_id}/jobs/{job\_id}/progress
- Parameter description

**Table 7-91** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | String | Job ID                                                                                                                                    |

## Request

None

## Response

**Table 7-92** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                      |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Yes       | Boolean | Indicates whether the request is successfully sent. Value <b>true</b> indicates that the request is successfully sent.                           |
| message    | Yes       | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                   |
| job_id     | No        | String  | ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results. |
| status     | Yes       | String  | Job status. The status can be <b>RUNNING</b> , <b>SCALING</b> , <b>LAUNCHING</b> , <b>FINISHED</b> , <b>FAILED</b> , or <b>CANCELLED</b> .       |
| sub_job_id | No        | Integer | ID of a subjob that is running. If the subjob is not running or it is already finished, the subjob ID may be empty.                              |

| Parameter | Mandatory | Type            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| progress  | No        | Double          | <p>Progress of a running subjob or the entire job. The value can only be a rough estimate of the subjob progress and does not indicate the detailed job progress.</p> <ul style="list-style-type: none"> <li>If the job is just started or being submitted, the progress is displayed as <b>0</b>. If the job execution is complete, the progress is displayed as <b>1</b>. In this case, progress indicates the running progress of the entire job. Because no subjob is running, <b>sub_job_id</b> is not displayed.</li> <li>If a subjob is running, the running progress of the subjob is displayed. The calculation method of progress is as follows: Number of completed tasks of the subjob/Total number of tasks of the subjob. In this case, progress indicates the running progress of the subjob, and <b>sub_job_id</b> indicates the subjob ID.</li> </ul> |
| sub_jobs  | No        | Array of Object | <p>Details about a subjob of a running job. A job may contain multiple subjobs. For details, see <a href="#">Table 7-93</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Table 7-93** Parameters in the **sub\_jobs** field

| Parameter       | Mandatory | Type             | Description                                                                                               |
|-----------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------|
| id              | No        | Integer          | Subjob ID, corresponding to <b>jobId</b> of the open-source spark JobData.                                |
| name            | No        | String           | Subjob name, corresponding to the <b>name</b> of the open-source spark JobData.                           |
| description     | No        | String           | Description of a subjob, corresponding to the <b>description</b> of the open-source spark JobData.        |
| submission_time | No        | String           | Submission time of a subjob, corresponding to the <b>submissionTime</b> of open-source Spark JobData.     |
| completion_time | No        | String           | Completion time of a subjob, corresponding to the <b>completionTime</b> of the open-source Spark JobData. |
| stage_ids       | No        | Array of Integer | Stage ID of the subjob, corresponding to the <b>stageIds</b> of the open-source spark JobData.            |

| Parameter             | Mandatory | Type    | Description                                                                                                                           |
|-----------------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------|
| job_group             | No        | String  | ID of a DLI job, corresponding to the <b>jobGroup</b> of open-source Spark JobData.                                                   |
| status                | No        | String  | Subjob status, corresponding to the <b>status</b> of open-source spark JobData.                                                       |
| num_tasks             | No        | Integer | Number of subjobs, corresponding to <b>numTasks</b> of the open-source Spark JobData.                                                 |
| num_active_tasks      | No        | Integer | Number of running tasks in a subjob, corresponding to <b>numActiveTasks</b> of the open-source Spark JobData.                         |
| num_completed_tasks   | No        | Integer | Number of tasks that have been completed in a subjob, corresponding to <b>numCompletedTasks</b> of open-source Spark JobData.         |
| num_skipped_tasks     | No        | Integer | Number of tasks skipped in a subjob, corresponding to <b>numSkippedTasks</b> of open-source Spark JobData.                            |
| num_failed_tasks      | No        | Integer | Number of subtasks that fail to be skipped, corresponding to <b>numFailedTasks</b> of open-source Spark JobData.                      |
| num_killed_tasks      | No        | Integer | Number of tasks killed in the subjob, corresponding to <b>numKilledTasks</b> of the open-source Spark JobData.                        |
| num_completed_indices | No        | Integer | Subjob completion index, corresponding to the <b>numCompletedIndices</b> of the open-source Spark JobData.                            |
| num_active_stages     | No        | Integer | Number of stages that are running in the subjob, corresponding to <b>numActiveStages</b> of the open-source Spark JobData.            |
| num_completed_stages  | No        | Integer | Number of stages that have been completed in the subjob, corresponding to <b>numCompletedStages</b> of the open-source Spark JobData. |
| num_skipped_stages    | No        | Integer | Number of stages skipped in the subjob, corresponding to <b>numSkippedStages</b> of the open-source Spark JobData.                    |
| num_failed_stages     | No        | Integer | Number of failed stages in a subjob, corresponding to <b>numFailedStages</b> of the open-source Spark JobData.                        |



| Parameter            | Mandatory | Type                | Description                                                                                                         |
|----------------------|-----------|---------------------|---------------------------------------------------------------------------------------------------------------------|
| killed_tasks_summary | No        | Map<string,integer> | Summary of the killed tasks in the subjob, corresponding to <b>killedTasksSummary</b> of open-source spark JobData. |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "",
 "job_id": "85798b38-ae44-48eb-bb90-7cf0dcdafe7b",
 "status": "RUNNING",
 "sub_job_id": 0,
 "progress": 0,
 "sub_jobs": [
 {
 "id": 0,
 "name": "runJob at FileFormatWriter.scala:266",
 "submission_time": "Mon Jul 27 17:24:03 CST 2020",
 "stage_ids": [
 0
],
 "job_group": "85798b38-ae44-48eb-bb90-7cf0dcdafe7b",
 "status": "RUNNING",
 "num_tasks": 1,
 "num_active_tasks": 1,
 "num_completed_tasks": 0,
 "num_skipped_tasks": 0,
 "num_failed_tasks": 0,
 "num_killed_tasks": 0,
 "num_completed_indices": 0,
 "num_active_stages": 1,
 "num_completed_stages": 0,
 "num_skipped_stages": 0,
 "num_failed_stages": 0
 }
]
}
```

## Status Codes

[Table 7-94](#) describes the status code.

**Table 7-94** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

**Table 7-95** Error codes

| Error Code | Error Message                                              |
|------------|------------------------------------------------------------|
| DLI.0999   | The queue backend version is too old or the queue is busy. |

# 8 Package Group-related APIs

## 8.1 Uploading a Package Group

### Function

This API is used to upload a package group to a **project**. The function is similar to creating a package on the management console.

### URI

- URI format  
POST /v2.0/{project\_id}/resources
- Parameter description

**Table 8-1** URI parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request

**Table 8-2** Request parameters

| Parameter | Mandatory | Type             | Description                                                                 |
|-----------|-----------|------------------|-----------------------------------------------------------------------------|
| paths     | Yes       | Array of Strings | List of OBS object paths. The OBS object path refers to the OBS object URL. |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| kind      | Yes       | String           | File type of a package group. <ul style="list-style-type: none"> <li>• <b>jar</b>: JAR file</li> <li>• <b>pyFile</b>: User Python file</li> <li>• <b>file</b>: User file</li> <li>• <b>modelFile</b>: User AI model file</li> </ul> <b>NOTE</b><br>If the same group of packages to be uploaded contains different file types, select <b>file</b> as the type of the file to be uploaded. |
| group     | No        | String           | Name of the group to be created.                                                                                                                                                                                                                                                                                                                                                          |
| is_async  | No        | Boolean          | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode.                                                                                                                                                                        |
| tags      | No        | Array of Objects | Resource tag. For details, see <a href="#">Table 8-3</a> .                                                                                                                                                                                                                                                                                                                                |

**Table 8-3** tags parameter

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| key       | Yes       | String | Tag key.    |
| value     | Yes       | String | Tag key.    |

## Response

**Table 8-4** Response parameters

| Parameter  | Mandatory | Type             | Description                                                                          |
|------------|-----------|------------------|--------------------------------------------------------------------------------------|
| group_name | No        | String           | Group name.                                                                          |
| status     | No        | String           | Status of a package group to be uploaded.                                            |
| resources  | No        | Array of strings | List of names of resource packages contained in the group.                           |
| details    | No        | Array of body    | Details about a group resource package. For details, see <a href="#">Table 8-5</a> . |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                        |
|-------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time | No        | Long    | UNIX timestamp when a package group is uploaded.                                                                                                                                                                   |
| update_time | No        | Long    | UNIX timestamp when a package group is updated.                                                                                                                                                                    |
| is_async    | No        | Boolean | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode. |
| owner       | No        | String  | Owner of a resource package.                                                                                                                                                                                       |

**Table 8-5 details** parameter description

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                     |
|-----------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time     | Yes       | Long    | UNIX time when a resource package is uploaded. The timestamp is in milliseconds.                                                                                                                                                                                                                                |
| update_time     | No        | Long    | UNIX time when the uploaded resource package is uploaded. The timestamp is in milliseconds.                                                                                                                                                                                                                     |
| resource_type   | Yes       | String  | Resource type.                                                                                                                                                                                                                                                                                                  |
| resource_name   | No        | String  | Resource name.                                                                                                                                                                                                                                                                                                  |
| status          | No        | String  | <ul style="list-style-type: none"> <li>Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li> <li>Value <b>READY</b> indicates that the resource package has been uploaded.</li> <li>Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li> </ul> |
| underlying_name | No        | String  | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                       |
| is_async        | No        | Boolean | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode.                                                                                              |

## Example Request

```
{
 "paths": [
 "https://xkftest.obs.xxx.com/txr_test/jars/spark-sdv-app.jar",
 "https://xkftest.obs.xxx.com/txr_test/jars/wordcount",
 "https://xkftest.obs.xxx.com/txr_test/jars/wordcount.py"
],
 "kind": "jar",
 "group": "gatk",
 "is_async": "true"
}
```

## Example Response

```
{
 "group_name": "gatk",
 "status": "READY",
 "resources": [
 "spark-sdv-app.jar",
 "wordcount",
 "wordcount.py"
],
 "details": [
 {
 "create_time": 0,
 "update_time": 0,
 "resource_type": "jar",
 "resource_name": "spark-sdv-app.jar",
 "status": "READY",
 "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_spark-sdv-app.jar"
 },
 {
 "create_time": 0,
 "update_time": 0,
 "resource_type": "jar",
 "resource_name": "wordcount",
 "status": "READY",
 "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_wordcount"
 },
 {
 "create_time": 0,
 "update_time": 0,
 "resource_type": "jar",
 "resource_name": "wordcount.py",
 "status": "READY",
 "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_wordcount.py"
 }
],
 "create_time": 1551334579654,
 "update_time": 1551345369070
}
```

## Status Codes

[Table 8-6](#) describes the status code.

**Table 8-6** Status codes

| Status Code | Description                        |
|-------------|------------------------------------|
| 201         | The file is successfully uploaded. |
| 400         | Request error.                     |

| Status Code | Description             |
|-------------|-------------------------|
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 8.2 Querying Package Group List

### Function

This API is used to query all resources in a project, including groups.

### URI

- URI format  
GET /v2.0/{project\_id}/resources
- Parameter description

**Table 8-7** URI parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 8-8** query parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                           |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| kind      | No        | String | Specifies the file type. The options are as follows: <ul style="list-style-type: none"><li>• <b>jar</b>: JAR file</li><li>• <b>pyFile</b>: User Python file</li><li>• <b>file</b>: User file</li><li>• <b>modelFile</b>: User AI model file</li></ul> |
| tags      | No        | String | Specifies a label for filtering.                                                                                                                                                                                                                      |

## Request

None

## Response

**Table 8-9** Response parameters

| Parameter | Mandatory | Type             | Description                                                                                             |
|-----------|-----------|------------------|---------------------------------------------------------------------------------------------------------|
| resources | No        | Array of Objects | List of names of uploaded user resources. For details about resources, see <a href="#">Table 8-10</a> . |
| modules   | No        | Array of Objects | List of built-in resource groups. For details about the groups, see <a href="#">Table 8-11</a> .        |
| groups    | No        | Array of Objects | Uploaded package groups of a user.                                                                      |
| total     | Yes       | Integer          | Total number of returned resource packages.                                                             |

**Table 8-10** Resource parameters

| Parameter       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                           |
|-----------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time     | No        | Long   | UNIX timestamp when a resource package is uploaded.                                                                                                                                                                                                                                                   |
| update_time     | No        | Long   | UNIX timestamp when the uploaded resource package is uploaded.                                                                                                                                                                                                                                        |
| resource_type   | No        | String | Resource type.                                                                                                                                                                                                                                                                                        |
| resource_name   | No        | String | Resource name.                                                                                                                                                                                                                                                                                        |
| status          | No        | String | <ul style="list-style-type: none"><li>Value <b>UPLOADING</b> indicates that the resource package is being uploaded.</li><li>Value <b>READY</b> indicates that the resource package has been uploaded.</li><li>Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li></ul> |
| underlying_name | No        | String | Name of the resource package in the queue.                                                                                                                                                                                                                                                            |
| owner           | No        | String | Owner of the resource package.                                                                                                                                                                                                                                                                        |



**Table 8-11** Resource group parameters

| Parameter   | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                      |
|-------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| module_name | No        | String           | Module name.                                                                                                                                                                                                                                                                                     |
| module_type | No        | String           | Module type.                                                                                                                                                                                                                                                                                     |
| status      | No        | String           | <ul style="list-style-type: none"> <li>Value <b>UPLOADING</b> indicates that the package group is being uploaded.</li> <li>Value <b>READY</b> indicates that the package group has been uploaded.</li> <li>Value <b>FAILED</b> indicates that the package group fails to be uploaded.</li> </ul> |
| resources   | No        | Array of Strings | List of names of resource packages contained in the group.                                                                                                                                                                                                                                       |
| description | No        | String           | Module description.                                                                                                                                                                                                                                                                              |
| create_time | No        | Long             | UNIX timestamp when a package group is uploaded.                                                                                                                                                                                                                                                 |
| update_time | No        | Long             | UNIX timestamp when a package group is updated.                                                                                                                                                                                                                                                  |

### Example Request

None

### Example Response

```
{
 "resources": [
 {
 "create_time": 1521532893736,
 "update_time": 1521552364503,
 "resource_type": "jar",
 "resource_name": "luxor-router-1.1.1.jar",
 "status": "READY",
 "underlying_name": "3efffb4f-40e9-455e-8b5a-a23b4d355e46_luxor-router-1.1.1.jar"
 }
],
 "groups": [
 {
 "group_name": "groupTest",
 "status": "READY",
 "resources": [
 "part-00000-9dfc17b1-2feb-45c5-b81d-bff533d6ed13.csv.gz",
 "person.csv"
],
 "details": [
 {
 "create_time": 1547090015132,
 "update_time": 1547090015132,
 "resource_type": "jar",
 "resource_name": "part-00000-9dfc17b1-2feb-45c5-b81d-bff533d6ed13.csv.gz",
 "status": "READY",

```

```
 "underlying_name": "db50c4dc-7187-4eb9-
a5d0-73ba8102ea5e_part-00000-9dfc17b1-2feb-45c5-b81d-bff533d6ed13.csv.gz"
 },
 {
 "create_time": 1547091098668,
 "update_time": 1547091098668,
 "resource_type": "file",
 "resource_name": "person.csv",
 "status": "READY",
 "underlying_name": "a4243a8c-bca6-4e77-a968-1f3b00217474_person.csv"
 }
],
"create_time": 1547090015131,
"update_time": 1547091098666
}
],
"modules": [
 {
 "module_name": "gatk",
 "status": "READY",
 "resources": [
 "gatk.jar",
 "tika-core-1.18.jar",
 "s3fs-2.2.2.jar"
],
 "create_time": 1521532893736,
 "update_time": 1521552364503
 }
]
}
```

## Status Codes

[Table 8-12](#) describes the status code.

**Table 8-12** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 8.3 Uploading a JAR Package Group

### Function

This API is used to upload a group of JAR packages to a **project**.

 NOTE

When a resource group with the same name is uploaded, the new group overwrites the old group.

## URI

- URI format  
POST /v2.0/{project\_id}/resources/jars
- Parameter description

**Table 8-13** URI parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 8-14** Request parameters

| Parameter | Mandatory | Type             | Description                                                                 |
|-----------|-----------|------------------|-----------------------------------------------------------------------------|
| paths     | Yes       | Array of Strings | List of OBS object paths. The OBS object path refers to the OBS object URL. |
| group     | No        | String           | Name of a package group.                                                    |

## Response

**Table 8-15** Response parameters

| Parameter  | Mandatory | Type             | Description                                                                           |
|------------|-----------|------------------|---------------------------------------------------------------------------------------|
| group_name | No        | String           | Group name.                                                                           |
| status     | No        | String           | Status of a package group to be uploaded.                                             |
| resources  | No        | Array of strings | List of names of resource packages contained in the group.                            |
| details    | No        | Array of body    | Details about a group resource package. For details, see <a href="#">Table 8-16</a> . |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                        |
|-------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time | No        | Long    | UNIX timestamp when a package group is uploaded.                                                                                                                                                                   |
| update_time | No        | Long    | UNIX timestamp when a package group is updated.                                                                                                                                                                    |
| is_async    | No        | Boolean | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode. |
| owner       | No        | String  | Owner of a resource package.                                                                                                                                                                                       |
| description | No        | String  | Description of a resource module.                                                                                                                                                                                  |
| module_name | No        | String  | Name of a resource module.                                                                                                                                                                                         |
| module_type | No        | String  | Type of a resource module. <ul style="list-style-type: none"> <li>• <b>jar</b>: User JAR file</li> <li>• <b>pyFile</b>: User Python file</li> <li>• <b>file</b>: User file</li> </ul>                              |

**Table 8-16 details** parameter description

| Parameter     | Mandatory | Type   | Description                                                                                 |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------|
| create_time   | No        | Long   | UNIX time when a resource package is uploaded. The timestamp is in milliseconds.            |
| update_time   | No        | Long   | UNIX time when the uploaded resource package is uploaded. The timestamp is in milliseconds. |
| resource_type | No        | String | Resource type. Set this parameter to <b>jar</b> .                                           |
| resource_name | No        | String | Resource name.                                                                              |

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                 |
|-----------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status          | No        | String  | <ul style="list-style-type: none"><li>Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li><li>Value <b>READY</b> indicates that the resource package has been uploaded.</li><li>Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li></ul> |
| underlying_name | No        | String  | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                   |
| is_async        | No        | Boolean | Indicates whether to upload a resource package asynchronously.                                                                                                                                                                                                                                              |

## Example Request

```
{
 "paths": [
 "https://test.obs.xxx.com/test_dli.jar"
],
 "group": "gatk"
}
```

## Example Response

```
{
 "group_name": "gatk",
 "status": "READY",
 "resources": [
 "test_dli.jar"
],
 "details": [
 {
 "create_time": 1608804435312,
 "update_time": 1608804435312,
 "resource_type": "jar",
 "resource_name": "test_dli.jar",
 "status": "READY",
 "underlying_name": "test_dli.jar"
 }
],
 "create_time": 1521532893736,
 "update_time": 1521552364503,
 "is_async": false
}
```

## Status Codes

[Table 8-17](#) describes the status code.

**Table 8-17** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 201         | Upload succeeded.       |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 8.4 Uploading a PyFile Package Group

## Function

This API is used to upload a group of **PyFile** packages to a **project**.

### NOTE

When a group with the same name as the PyFile package is uploaded, the new group overwrites the old group.

## URI

- URI format  
POST /v2.0/{project\_id}/resources/pyfiles
- Parameter description

**Table 8-18** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 8-19** Request parameters

| Parameter | Mandatory | Type             | Description                                                                 |
|-----------|-----------|------------------|-----------------------------------------------------------------------------|
| paths     | Yes       | Array of strings | List of OBS object paths. The OBS object path refers to the OBS object URL. |
| group     | No        | String           | Name of a package group.                                                    |

## Response

**Table 8-20** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                                                                                                                        |
|-------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| group_name  | No        | String           | Group name.                                                                                                                                                                                                        |
| status      | No        | String           | Status of a package group to be uploaded.                                                                                                                                                                          |
| resources   | No        | Array of strings | List of names of resource packages contained in the group.                                                                                                                                                         |
| details     | No        | Array of body    | Details about a group resource package. For details, see <a href="#">Table 8-21</a> .                                                                                                                              |
| create_time | No        | Long             | UNIX timestamp when a package group is uploaded.                                                                                                                                                                   |
| update_time | No        | Long             | UNIX timestamp when a package group is updated.                                                                                                                                                                    |
| is_async    | No        | Boolean          | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode. |
| owner       | No        | String           | Owner of a resource package.                                                                                                                                                                                       |
| description | No        | String           | Description of a resource module.                                                                                                                                                                                  |
| module_name | No        | String           | Name of a resource module.                                                                                                                                                                                         |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                           |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| module_type | No        | String | Type of a resource module. <ul style="list-style-type: none"> <li>• <b>jar</b>: User JAR file</li> <li>• <b>pyFile</b>: User Python file</li> <li>• <b>file</b>: User file</li> </ul> |

**Table 8-21 details** parameter description

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                           |
|-----------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time     | No        | Long    | UNIX time when a resource package is uploaded. The timestamp is in milliseconds.                                                                                                                                                                                                                                      |
| update_time     | No        | Long    | UNIX time when the uploaded resource package is uploaded. The timestamp is in milliseconds.                                                                                                                                                                                                                           |
| resource_type   | No        | String  | Resource type. Set this parameter to <b>pyFile</b> .                                                                                                                                                                                                                                                                  |
| resource_name   | No        | String  | Resource name.                                                                                                                                                                                                                                                                                                        |
| status          | No        | String  | <ul style="list-style-type: none"> <li>• Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li> <li>• Value <b>READY</b> indicates that the resource package has been uploaded.</li> <li>• Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li> </ul> |
| underlying_name | No        | String  | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                             |
| is_async        | No        | Boolean | Indicates whether to upload a resource package asynchronously.                                                                                                                                                                                                                                                        |

### Example Request

```
{
 "paths": [
 "https://test.obs.xxx.com/dli_tf.py"
],
 "group": " gatk"
}
```



## Example Response

```
{
 "group_name": "gatk",
 "status": "READY",
 "resources": [
 "dli_tf.py"
],
 "details": [
 {
 "create_time": 1608804435312,
 "update_time": 1608804435312,
 "resource_type": "pyFile",
 "resource_name": "dli_tf.py",
 "status": "READY",
 "underlying_name": "dli_tf.py"
 }
],
 "create_time": 1521532893736,
 "update_time": 1521552364503,
 "is_async": false
}
```

## Status Codes

[Table 8-22](#) describes the status code.

**Table 8-22** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 201         | Upload succeeded.       |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 8.5 Uploading a File Package Group

## Function

This API is used to upload a group of **File** packages to a **project**.

### NOTE

When the **File** package group with the same name is uploaded, the new group overwrites the old group.

## URI

- URI format  
POST /v2.0/{project\_id}/resources/files
- Parameter description

**Table 8-23** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 8-24** Request parameters

| Parameter | Mandatory | Type             | Description                                                                 |
|-----------|-----------|------------------|-----------------------------------------------------------------------------|
| paths     | Yes       | Array of Strings | List of OBS object paths. The OBS object path refers to the OBS object URL. |
| group     | No        | String           | Name of a package group.                                                    |

## Response

**Table 8-25** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                           |
|-------------|-----------|------------------|---------------------------------------------------------------------------------------|
| group_name  | No        | String           | Group name.                                                                           |
| status      | No        | String           | Status of a package group to be uploaded.                                             |
| resources   | No        | Array of strings | List of names of resource packages contained in the group.                            |
| details     | No        | Array of body    | Details about a group resource package. For details, see <a href="#">Table 8-26</a> . |
| create_time | No        | Long             | UNIX timestamp when a package group is uploaded.                                      |
| update_time | No        | Long             | UNIX timestamp when a package group is updated.                                       |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                        |
|-------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_async    | No        | Boolean | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode. |
| owner       | No        | String  | Owner of a resource package.                                                                                                                                                                                       |
| description | No        | String  | Description of a resource module.                                                                                                                                                                                  |
| module_name | No        | String  | Name of a resource module.                                                                                                                                                                                         |
| module_type | No        | String  | Type of a resource module. <ul style="list-style-type: none"> <li>• <b>jar</b>: User JAR file</li> <li>• <b>pyFile</b>: User Python file</li> <li>• <b>file</b>: User file</li> </ul>                              |

**Table 8-26 details** parameter description

| Parameter       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                           |
|-----------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time     | No        | Long   | UNIX time when a resource package is uploaded. The timestamp is expressed in milliseconds.                                                                                                                                                                                                                            |
| update_time     | No        | Long   | UNIX time when the uploaded resource package is uploaded. The timestamp is expressed in milliseconds.                                                                                                                                                                                                                 |
| resource_type   | No        | String | Resource type. Set this parameter to <b>file</b> .                                                                                                                                                                                                                                                                    |
| resource_name   | No        | String | Resource name.                                                                                                                                                                                                                                                                                                        |
| status          | No        | String | <ul style="list-style-type: none"> <li>• Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li> <li>• Value <b>READY</b> indicates that the resource package has been uploaded.</li> <li>• Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li> </ul> |
| underlying_name | No        | String | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                             |

| Parameter | Mandatory | Type    | Description                                                    |
|-----------|-----------|---------|----------------------------------------------------------------|
| is_async  | No        | Boolean | Indicates whether to upload a resource package asynchronously. |

### Example Request

```
{
 "paths": [
 "https://test.obs.xxx.com/test_dli.jar",
 "https://test.obs.xxx.com/dli_tf.py"
],
 "group": "gatk"
}
```

### Example Response

```
{
 "group_name": "gatk",
 "status": "READY",
 "resources": [
 "test_dli.jar",
 "dli_tf.py"
],
 "details": [
 {
 "create_time": 1608804435312,
 "update_time": 1608804435312,
 "resource_type": "file",
 "resource_name": "test_dli.jar",
 "status": "READY",
 "underlying_name": "test_dli.jar"
 },
 {
 "create_time": 1608804435312,
 "update_time": 1608804435312,
 "resource_type": "file",
 "resource_name": "dli_tf.py",
 "status": "READY",
 "underlying_name": "dli_tf.py"
 }
],
 "create_time": 1521532893736,
 "update_time": 1521552364503,
 "is_async": false
}
```

### Status Codes

[Table 8-27](#) describes the status code.

**Table 8-27** Status codes

| Status Code | Description       |
|-------------|-------------------|
| 201         | Upload succeeded. |
| 400         | Request error.    |

| Status Code | Description             |
|-------------|-------------------------|
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 8.6 Querying Resource Packages in a Group

## Function

This API is used to query resource information of a package group in a **Project**.

## URI

- URI format  
GET /v2.0/{project\_id}/resources/{resource\_name}
- Parameter description

**Table 8-28** URI parameter description

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| resource_name | Yes       | String | Name of the resource package that is uploaded.                                                                                            |

**Table 8-29** query parameter description

| Parameter | Mandatory | Type   | Description                                                               |
|-----------|-----------|--------|---------------------------------------------------------------------------|
| group     | No        | String | Name of the package group returned when the resource package is uploaded. |

### NOTE

The following is an example of the URL containing the **query** parameter:

```
GET /v2.0/{project_id}/resources/{resource_name}?group={group}
```

## Request

None

## Response

**Table 8-30** Response parameters

| Parameter       | Type   | Description                                                                                                                                                                                                                                                                                                     |
|-----------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time     | Long   | UNIX time when a resource package is uploaded. The timestamp is expressed in milliseconds.                                                                                                                                                                                                                      |
| update_time     | Long   | UNIX time when the uploaded resource package is uploaded. The timestamp is expressed in milliseconds.                                                                                                                                                                                                           |
| resource_type   | String | Resource type.                                                                                                                                                                                                                                                                                                  |
| resource_name   | String | Resource name.                                                                                                                                                                                                                                                                                                  |
| status          | String | <ul style="list-style-type: none"> <li>Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li> <li>Value <b>READY</b> indicates that the resource package has been uploaded.</li> <li>Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li> </ul> |
| underlying_name | String | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                       |
| owner           | String | Owner of a resource package.                                                                                                                                                                                                                                                                                    |

## Example Request

None

## Example Response

```
{
 "create_time": 1522055409139,
 "update_time": 1522228350501,
 "resource_type": "jar",
 "resource_name": "luxor-ommanager-dist.tar.gz",
 "status": "uploading",
 "underlying_name": "7885d26e-c532-40f3-a755-c82c442f19b8_luxor-ommanager-dist.tar.gz"
}
```

## Status Codes

**Table 8-31** describes the status code.

**Table 8-31** Status codes

| Status Codes | Description              |
|--------------|--------------------------|
| 200          | The query is successful. |
| 400          | Request error.           |
| 500          | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 8.7 Deleting a Resource Package from a Group

### Function

This API is used to delete resource packages in a group in a **Project**.

### URI

- URI format  
DELETE /v2.0/{project\_id}/resources/{resource\_name}
- Parameter description

**Table 8-32** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| resource_name | Yes       | String | Name of the resource package that is uploaded.                                                                                            |

**Table 8-33** query parameter description

| Parameter | Mandatory | Type   | Description                                                               |
|-----------|-----------|--------|---------------------------------------------------------------------------|
| group     | No        | String | Name of the package group returned when the resource package is uploaded. |

 NOTE

The following is an example of the URL containing the **query** parameter:  
DELETE /v2.0/{project\_id}/resources/{resource\_name}?group={group}

## Request

None

## Response

- Code 200 is returned if you successfully delete a resource package.
- Code 404 is returned if you initiate a request to delete a resource package that does not exist.

## Example Request

None

## Example Response

None

## Status Codes

[Table 8-34](#) describes the status code.

**Table 8-34** Status codes

| Status Code | Description         |
|-------------|---------------------|
| 200         | Deletion succeeded. |
| 404         | Not found.          |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 8.8 Changing the Owner of a Group or Resource Package

## Function

This API is used to change the owner of a program package.



## URI

- URI format  
PUT /v2.0/{project\_id}/resources/owner
- Parameter description

**Table 8-35** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 8-36** Request parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| new_owner     | Yes       | String | New username. The name contains 5 to 32 characters, including only digits, letters, underscores (_), and hyphens (-). It cannot start with a digit.                                                                                                                                                                                                 |
| group_name    | Yes       | String | Group name. The name contains a maximum of 64 characters. Only digits, letters, periods (.), underscores (_), and hyphens (-) are allowed.                                                                                                                                                                                                          |
| resource_name | No        | String | Package name. The name can contain only digits, letters, underscores (_), exclamation marks (!), hyphens (-), and periods (.), but cannot start with a period. The length (including the file name extension) cannot exceed 128 characters.<br><b>This parameter is mandatory if you want to change the owner of a resource package in a group.</b> |

### NOTE

**group\_name** and **resource\_name** can be used independently or together.

- To change the owner of a group, use **group\_name**.
- To change the owner of a resource package, use **resource\_name**.
- To change the owner of a resource package in a group, use **group\_name** and **resource\_name** at the same time.

## Response

**Table 8-37** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |

## Example Request

```
{
 "new_owner": "scuser1",
 "group_name": "groupName"
}
```

## Example Response

```
{
 "is_success": "true",
 "message": ""
}
```

## Status Codes

[Table 8-38](#) describes the status code.

**Table 8-38** Status codes

| Status Code | Description                                 |
|-------------|---------------------------------------------|
| 200         | The modification operations are successful. |
| 404         | Request error.                              |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

**Table 8-39** Error codes

| Error Code | Error Message                  |
|------------|--------------------------------|
| DLI.0002   | No such user. userName:ssssss. |

# 9 APIs Related to Flink Jobs

## 9.1 Granting OBS Permissions to DLI

### Function

This API is used to grant DLI the permission to access OBS buckets for saving job checkpoints and run logs.

### URI

- URI format  
POST /v1.0/{project\_id}/dli/obs-authorize
- Parameter description

**Table 9-1** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request

**Table 9-2** Request parameters

| Parameter   | Mandatory | Type             | Description          |
|-------------|-----------|------------------|----------------------|
| obs_buckets | Yes       | Array of Strings | List of OBS buckets. |

## Response

**Table 9-3** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                     |

## Example Request

```
{
 "obs_buckets": [
 "bucket1"
]
}
```

## Example Response

```
{
 "is_success": "true",
 "message": "The following OBS bucket is authorized successfully, bucket1."
}
```

## Status Codes

[Table 9-4](#) describes the status code.

**Table 9-4** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Authorization succeeds. |
| 400         | Request error.          |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 9.2 Creating a SQL Job

### Function

This API is used to create a Flink streaming SQL job.

## URI

- URI format  
POST /v1.0/{project\_id}/streaming/sql-jobs
- Parameter description

**Table 9-5** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 9-6** Request parameters

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name        | Yes       | String  | Name of the job. The value can contain 1 to 57 characters.                                                                                                                                                                                                                                                                                                                                               |
| desc        | No        | String  | Job description. Length range: 0 to 512 characters.                                                                                                                                                                                                                                                                                                                                                      |
| template_id | No        | Integer | Template ID.<br>If both <b>template_id</b> and <b>sql_body</b> are specified, <b>sql_body</b> is used. If <b>template_id</b> is specified but <b>sql_body</b> is not, fill <b>sql_body</b> with the <b>template_id</b> value.                                                                                                                                                                            |
| queue_name  | No        | String  | Name of a queue. The value can contain 0 to 128 characters.                                                                                                                                                                                                                                                                                                                                              |
| sql_body    | No        | String  | Stream SQL statement, which includes at least the following three parts: source, query, and sink. Length range: 1024x1024 characters.                                                                                                                                                                                                                                                                    |
| run_mode    | No        | String  | Job running mode. The options are as follows: <ul style="list-style-type: none"><li>• <b>shared_cluster</b>: indicates that the job is running on a shared cluster.</li><li>• <b>exclusive_cluster</b>: indicates that the job is running on an exclusive cluster.</li><li>• <b>edge_node</b>: indicates that the job is running on an edge node.</li></ul> The default value is <b>shared_cluster</b> . |

| Parameter           | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cu_number           | No        | Integer | <p>Number of CUs selected for a job. The default value is <b>2</b>.</p> <p>Sum of the number of compute units and job manager CUs of DLI. CU is also the billing unit of DLI. One CU equals one vCPU and 4 GB. The value is the number of CUs required for job running and cannot exceed the number of CUs in the bound queue. For details about how to set the number of CUs of JobManager, see <b>manager_cu_number</b>.</p>                                                                                                                             |
| parallel_number     | No        | Integer | <p>Number of parallel jobs set by a user. The default value is <b>1</b>.</p> <p>Number of Flink SQL jobs that run at the same time. Properly increasing the number of parallel threads improves the overall computing capability of the job. However, the switchover overhead caused by the increase of threads must be considered. This value cannot be greater than four times the compute units (number of CUs minus the number of JobManager CUs).</p> <p>For details about how to set the number of JobManager CUs, see <b>manager_cu_number</b>.</p> |
| checkpoint_enabled  | No        | Boolean | <p>Whether to enable the automatic job snapshot function.</p> <ul style="list-style-type: none"> <li>● <b>true</b>: indicates to enable the automatic job snapshot function.</li> <li>● <b>false</b>: indicates to disable the automatic job snapshot function.</li> <li>● Default value: <b>false</b></li> </ul>                                                                                                                                                                                                                                          |
| checkpoint_mode     | No        | Integer | <p>Snapshot mode. There are two options:</p> <ul style="list-style-type: none"> <li>● <b>1: ExactlyOnce</b>, indicates that data is processed only once.</li> <li>● <b>2: AtLeastOnce</b>, indicates that data is processed at least once.</li> </ul> <p>The default value is <b>1</b>.</p>                                                                                                                                                                                                                                                                |
| checkpoint_interval | No        | Integer | <p>Snapshot interval. The unit is second. The default value is <b>10</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Parameter              | Mandatory | Type    | Description                                                                                                                                                                                                                                                                             |
|------------------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| obs_bucket             | No        | String  | OBS path where users are authorized to save the snapshot. This parameter is valid only when <b>checkpoint_enabled</b> is set to <b>true</b> .<br>OBS path where users are authorized to save the snapshot. This parameter is valid only when <b>log_enabled</b> is set to <b>true</b> . |
| log_enabled            | No        | Boolean | Whether to enable the function of uploading job logs to users' OBS buckets. The default value is <b>false</b> .                                                                                                                                                                         |
| smn_topic              | No        | String  | SMN topic. If a job fails, the system will send a message to users subscribed to the SMN topic.                                                                                                                                                                                         |
| restart_when_exception | No        | Boolean | Whether to enable the function of automatically restarting a job upon job exceptions. The default value is <b>false</b> .                                                                                                                                                               |
| idle_state_retention   | No        | Integer | Retention time of the idle state. The unit is hour. The default value is <b>1</b> .                                                                                                                                                                                                     |
| job_type               | No        | String  | Job type. This parameter can be set to <b>flink_sql_job</b> .                                                                                                                                                                                                                           |
| dirty_data_strategy    | No        | String  | Dirty data policy of a job. <ul style="list-style-type: none"> <li>• <b>2:obsDir</b>: Save. <b>obsDir</b> specifies the path for storing dirty data.</li> <li>• <b>1</b>: Trigger a job exception</li> <li>• <b>0</b>: Ignore</li> </ul> The default value is <b>0</b> .                |
| udf_jar_url            | No        | String  | Name of the resource package that has been uploaded to the DLI resource management system. The UDF Jar file of the SQL job is specified by this parameter.                                                                                                                              |
| manager_cunumber       | No        | Integer | Number of CUs in the JobManager selected for a job. The default value is <b>1</b> .                                                                                                                                                                                                     |
| tm_cus                 | No        | Integer | Number of CUs for each TaskManager. The default value is <b>1</b> .                                                                                                                                                                                                                     |
| tm_slot_num            | No        | Integer | Number of slots in each TaskManager. The default value is <b>(parallel_number*tm_cus)/(cu_number-manager_cunumber)</b> .                                                                                                                                                                |
| resume_checkpoint      | No        | Boolean | Whether the abnormal restart is recovered from the checkpoint.                                                                                                                                                                                                                          |

| Parameter      | Mandatory | Type             | Description                                                                                                                                                                                  |
|----------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resume_max_num | No        | Integer          | Maximum number of retry times upon exceptions. The unit is times/hour. Value range: -1 or greater than 0. The default value is <b>-1</b> , indicating that the number of times is unlimited. |
| tags           | No        | Array of Objects | Label of a Flink SQL job. For details, see <a href="#">Table 9-7</a> .                                                                                                                       |
| runtime_config | No        | String           | Customizes optimization parameters when a Flink job is running.                                                                                                                              |

**Table 9-7** tags parameters

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| key       | Yes       | String | Tag key.    |
| value     | Yes       | String | Tag key.    |

## Response

**Table 9-8** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                               |
| job        | No        | Object  | Information about the job status. For details, see <a href="#">Table 9-9</a> .                                                 |



**Table 9-9** job parameters

| Parameter   | Mandatory | Type   | Description                                                                                                               |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------|
| job_id      | Yes       | Long   | Job ID.                                                                                                                   |
| status_name | No        | String | Name of job status. For details, see the description of the <b>status</b> field in <a href="#">Querying Job Details</a> . |
| status_desc | No        | String | Status description. Causes and suggestions for the abnormal status.                                                       |

### Example Request

```
{
 "name": "myjob",
 "desc": "This is a job used for counting characters.",
 "template_id": 100000,
 "queue_name": "testQueue",
 "sql_body": "select * from source_table",
 "run_mode": "exclusive_cluster",
 "cu_number": 2,
 "parallel_number": 1,
 "checkpoint_enabled": false,
 "checkpoint_mode": "exactly_once",
 "checkpoint_interval": 0,
 "obs_bucket": "my_obs_bucket",
 "log_enabled": false,
 "restart_when_exception": false,
 "idle_state_retention": 3600,
 "job_type": "flink_sql_job",
 "dirty_data_strategy": "0",
 "udf_jar_url": "group/test.jar"
}
```

### Example Response

```
{
 "is_success": "true",
 "message": "A DLI job is created successfully.",
 "job": {
 "job_id": 148,
 "status_name": "job_init",
 "status_desc": ""
 }
}
```

### Status Codes

**Table 9-10** describes status codes.

**Table 9-10** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is created successfully. |
| 400         | The input parameter is invalid.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 9.3 Updating a SQL Job

### Function

This API is used to modify a Flink SQL job.

### URI

- URI format  
PUT /v1.0/{project\_id}/streaming/sql-jobs/{job\_id}
- Parameter description

**Table 9-11** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | Long   | Job ID. Refer to <a href="#">Creating a SQL Job</a> to obtain the value.                                                                  |

### Request

**Table 9-12** Request parameters

| Parameter  | Mandatory | Type   | Description                                                 |
|------------|-----------|--------|-------------------------------------------------------------|
| name       | No        | String | Name of a job. Length range: 0 to 57 characters.            |
| desc       | No        | String | Job description. Length range: 0 to 512 characters.         |
| queue_name | No        | String | Name of a queue. The value can contain 0 to 128 characters. |

| Parameter           | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sql_body            | No        | String  | Stream SQL statement, which includes at least the following three parts: source, query, and sink. Length range: 0 to 1024x1024 characters.                                                                                                                                                                                                                                                               |
| run_mode            | No        | String  | Job running mode. The options are as follows: <ul style="list-style-type: none"><li>● <b>shared_cluster</b>: indicates that the job is running on a shared cluster.</li><li>● <b>exclusive_cluster</b>: indicates that the job is running on an exclusive cluster.</li><li>● <b>edge_node</b>: indicates that the job is running on an edge node.</li></ul> The default value is <b>shared_cluster</b> . |
| cu_number           | No        | Integer | Number of CUs selected for a job. The default value is <b>2</b> .                                                                                                                                                                                                                                                                                                                                        |
| parallel_number     | No        | Integer | Number of parallel jobs set by a user. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                                                   |
| checkpoint_enabled  | No        | Boolean | Whether to enable the automatic job snapshot function. <ul style="list-style-type: none"><li>● <b>true</b>: indicates to enable the automatic job snapshot function.</li><li>● <b>false</b>: indicates to disable the automatic job snapshot function.</li><li>● Default value: <b>false</b></li></ul>                                                                                                   |
| checkpoint_mode     | No        | Integer | Snapshot mode. There are two options: <ul style="list-style-type: none"><li>● <b>1: ExactlyOnce</b>, indicates that data is processed only once.</li><li>● <b>2: at_least_once</b>, indicates that data is processed at least once.</li></ul> The default value is <b>1</b> .                                                                                                                            |
| checkpoint_interval | No        | Integer | Snapshot interval. The unit is second. The default value is <b>10</b> .                                                                                                                                                                                                                                                                                                                                  |

| Parameter              | Mandatory | Type             | Description                                                                                                                                                                                                                                                                             |
|------------------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| obs_bucket             | No        | String           | OBS path where users are authorized to save the snapshot. This parameter is valid only when <b>checkpoint_enabled</b> is set to <b>true</b> .<br>OBS path where users are authorized to save the snapshot. This parameter is valid only when <b>log_enabled</b> is set to <b>true</b> . |
| log_enabled            | No        | Boolean          | Whether to enable the function of uploading job logs to users' OBS buckets. The default value is <b>false</b> .                                                                                                                                                                         |
| smn_topic              | No        | String           | SMN topic. If a job fails, the system will send a message to users subscribed to the SMN topic.                                                                                                                                                                                         |
| restart_when_exception | No        | Boolean          | Whether to enable the function of automatically restarting a job upon job exceptions. The default value is <b>false</b> .                                                                                                                                                               |
| idle_state_retention   | No        | Integer          | Expiration time, in seconds. The default value is <b>3600</b> .                                                                                                                                                                                                                         |
| edge_group_ids         | No        | Array of Strings | List of edge computing group IDs. Use commas (,) to separate multiple IDs.                                                                                                                                                                                                              |
| dirty_data_strategy    | No        | String           | Dirty data policy of a job. <ul style="list-style-type: none"><li>● <b>2:obsDir</b>: Save. <b>obsDir</b> specifies the path for storing dirty data.</li><li>● <b>1</b>: Trigger a job exception</li><li>● <b>0</b>: Ignore</li></ul> The default value is <b>0</b> .                    |
| udf_jar_url            | No        | String           | Name of the resource package that has been uploaded to the DLI resource management system. The UDF Jar file of the SQL job is specified by this parameter.                                                                                                                              |
| manager_cu_number      | No        | Integer          | Number of CUs in the JobManager selected for a job. The default value is <b>1</b> .                                                                                                                                                                                                     |
| tm_cus                 | No        | Integer          | Number of CUs for each TaskManager. The default value is <b>1</b> .                                                                                                                                                                                                                     |

| Parameter               | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tm_slot_num             | No        | Integer | Number of slots in each TaskManager. The default value is <b>(parallel_number*tm_cus)/(cu_number-manager_cu_number)</b> .                                                                                                                                                                                                                                                                                                                                                                      |
| operator_config         | No        | String  | Degree of parallelism (DOP) of an operator.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| resume_checkpoint       | No        | Boolean | Whether the abnormal restart is recovered from the checkpoint.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| resume_max_num          | No        | Integer | Maximum number of retry times upon exceptions. The unit is times/hour. Value range: -1 or greater than 0. The default value is <b>-1</b> , indicating that the number of times is unlimited.                                                                                                                                                                                                                                                                                                   |
| static_estimator_config | No        | String  | Traffic or hit ratio of each operator, which is a character string in JSON format. Example:<br><pre>{   "operator_list": [     {       "id": "0a448493b4782967b150582570326227",       "rate_factor": 0.55     },     {       "id": "6d2677a0ecc3fd8df0b72ec675edf8f4",       "rate_factor": 1     },     {       "id": "ea632d67b7d595e5b851708ae9ad79d6",       "rate_factor": 0.55     },     {       "id": "bc764cd8ddf7a0cff126f51c16239658",       "output_rate": 2000     }   ] }</pre> |
| runtime_config          | No        | String  | Customizes optimization parameters when a Flink job is running.                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Response

**Table 9-13** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                               |
| job        | No        | Object  | Information about job update. For details, see <a href="#">Table 9-14</a> .                                                    |

**Table 9-14** job parameters

| Parameter   | Mandatory | Type | Description                                |
|-------------|-----------|------|--------------------------------------------|
| update_time | No        | Long | Job update time, expressed by milliseconds |

### Example Request

```
{
 "name": "myjob",
 "desc": "My first job",
 "queue_name": "testQueue",
 "sql_body": "select * from source_table",
 "run_mode": "shared_cluster",
 "cu_number": 4,
 "parallel_number": 4,
 "checkpoint_enabled": false,
 "checkpoint_mode": "exactly_once",
 "checkpoint_interval": 10,
 "obs_bucket": "",
 "log_enabled": false,
 "smn_topic": "",
 "restart_when_exception": false,
 "idle_state_retention": 3600,
 "edge_group_ids": [
 "62de1e1c-066e-48a8-a79d-f461a31b2ee1",
 "2eb00f85-99f2-4144-bcb7-d39ff47f9002"
],
 "dirty_data_strategy": "0",
 "udf_jar_url": "group/test.jar"
}
```

### Example Response

```
{
 "is_success": "true",
 "message": "The job is updated successfully.",
 "job": {
 "update_time": 1578905682534
 }
}
```

### Status Codes

**Table 9-15** describes status codes.

**Table 9-15** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is updated successfully. |
| 400         | The input parameter is invalid.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 9.4 Creating a Flink Jar job

### Function

This API is used to create custom jobs, which currently support the JAR format and run in dedicated queues.

### URI

- URI format  
POST /v1.0/{project\_id}/streaming/flink-jobs
- Parameter description

**Table 9-16** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request

**Table 9-17** Parameter description

| Parameter  | Mandatory | Type    | Description                                                 |
|------------|-----------|---------|-------------------------------------------------------------|
| name       | Yes       | String  | Name of the job. The value can contain 1 to 57 characters.  |
| desc       | No        | String  | Job description. Length range: 0 to 512 characters.         |
| queue_name | No        | String  | Name of a queue. The value can contain 0 to 128 characters. |
| cu_number  | No        | Integer | Number of CUs selected for a job.                           |

| Parameter              | Mandatory | Type             | Description                                                                                                                                                                                                                                               |
|------------------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| manager_cu_number      | No        | Integer          | Number of CUs on the management node selected by the user for a job, which corresponds to the number of Flink job managers. The default value is <b>1</b> .                                                                                               |
| parallel_number        | No        | Integer          | Number of parallel operations selected for a job.                                                                                                                                                                                                         |
| log_enabled            | No        | Boolean          | Whether to enable the job log function. <ul style="list-style-type: none"><li>● <b>true</b>: indicates to enable the job log function.</li><li>● <b>false</b>: indicates to disable the job log function.</li><li>● Default value: <b>false</b></li></ul> |
| obs_bucket             | No        | String           | OBS bucket where users are authorized to save logs when <b>log_enabled</b> is set to <b>true</b> .                                                                                                                                                        |
| smn_topic              | No        | String           | SMN topic. If a job fails, the system will send a message to users subscribed to the SMN topic.                                                                                                                                                           |
| main_class             | No        | String           | Job entry class.                                                                                                                                                                                                                                          |
| entrypoint_args        | No        | String           | Job entry parameter. Multiple parameters are separated by spaces.                                                                                                                                                                                         |
| restart_when_exception | No        | Boolean          | Whether to enable the function of restart upon exceptions. The default value is <b>false</b> .                                                                                                                                                            |
| entrypoint             | No        | String           | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize the JAR file where the job main class is located.                                                                                   |
| dependency_jars        | No        | Array of Strings | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize other dependency packages.<br>Example: <b>myGroup/test.jar,myGroup/test1.jar</b> .                                                  |



| Parameter         | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dependency_files  | No        | Array of Strings | Name of the resource package that has been uploaded to the DLI resource management system. This parameter is used to customize dependency files.<br><br>Example: <b>myGroup/test.csv,myGroup/test1.csv</b> .<br><br>You can add the following content to the application to access the corresponding dependency file: In the command, <b>fileName</b> indicates the name of the file to be accessed, and <b>ClassName</b> indicates the name of the class that needs to access the file.<br><code>ClassName.class.getClassLoader().getResource("userData/fileName")</code> |
| tm_cus            | No        | Integer          | Number of CUs for each TaskManager. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| tm_slot_num       | No        | Integer          | Number of slots in each TaskManager. The default value is <b>(parallel_number*tm_cus)/(cu_number-manager_cu_number)</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| resume_checkpoint | No        | Boolean          | Whether the abnormal restart is recovered from the checkpoint.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| resume_max_num    | No        | Integer          | Maximum number of retry times upon exceptions. The unit is times/hour. Value range: -1 or greater than 0. The default value is <b>-1</b> , indicating that the number of times is unlimited.                                                                                                                                                                                                                                                                                                                                                                               |
| checkpoint_path   | No        | String           | Storage address of the checkpoint in the JAR file of the user. The path must be unique.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| tags              | No        | Array of Objects | Label of a Flink JAR job. For details, see <a href="#">Table 9-18</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| runtime_config    | No        | String           | Customizes optimization parameters when a Flink job is running.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

**Table 9-18** tags parameter

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| key       | Yes       | String | Tag key.    |

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| value     | Yes       | String | Tag key.    |

## Response

**Table 9-19** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                               |
| job        | No        | Object  | Information about the job status. For details, see <a href="#">Table 9-20</a> .                                                |

**Table 9-20** job parameters

| Parameter   | Mandatory | Type   | Description                                                         |
|-------------|-----------|--------|---------------------------------------------------------------------|
| job_id      | Yes       | Long   | Job ID.                                                             |
| status_name | No        | String | Name of job status.                                                 |
| status_desc | No        | String | Status description. Causes and suggestions for the abnormal status. |

## Example Request

```
{
 "name": "test",
 "desc": "job for test",
 "queue_name": "testQueue",
 "manager_cu_number": 1,
 "cu_number": 2,
 "parallel_number": 1,
 "tm_cus": 1,
 "tm_slot_num": 1,
 "log_enabled": true,
 "obs_bucket": "bucketName",
 "smn_topic": "topic",
 "main_class": "org.apache.flink.examples.streaming.JavaQueueStream",
 "restart_when_exception": false,
 "entrypoint": "javaQueueStream.jar",
 "entrypoint_args": "-windowSize 2000 -rate3",
 "dependency_jars": [
```

```

 "myGroup/test.jar",
 "myGroup/test1.jar"
],
 "dependency_files": [
 "myGroup/test.csv",
 "myGroup/test1.csv"
]
}

```

## Example Response

```

{
 "is_success": true,
 "message": "A Flink job is created successfully.",
 "job": {
 "job_id": 138,
 "status_name": "job_init",
 "status_desc": ""
 }
}

```

## Status Codes

[Table 9-21](#) describes status codes.

**Table 9-21** Status codes

| Status Code | Description                                   |
|-------------|-----------------------------------------------|
| 200         | The custom Flink job is created successfully. |
| 400         | The input parameter is invalid.               |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 9.5 Updating a Flink Jar Job

## Function

This API is used to update custom jobs, which currently support the JAR format and run in dedicated queues.

## URI

- URI format  
PUT /v1.0/{*project\_id*}/streaming/flink-jobs/{*job\_id*}
- Parameter description

**Table 9-22** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | Long   | Job ID. Refer to <a href="#">Creating a Flink Jar job</a> to obtain the value.                                                            |

## Request

**Table 9-23** Parameter description

| Parameter         | Mandatory | Type    | Description                                                                                                                                                                                                                                               |
|-------------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name              | No        | String  | Name of the job. Length range: 0 to 57 characters.                                                                                                                                                                                                        |
| desc              | No        | String  | Job description. Length range: 0 to 512 characters.                                                                                                                                                                                                       |
| queue_name        | No        | String  | Name of a queue. Length range: 1 to 128 characters.                                                                                                                                                                                                       |
| cu_number         | No        | Integer | Number of CUs selected for a job. The default value is <b>2</b> .                                                                                                                                                                                         |
| manager_cu_number | No        | Integer | Number of CUs on the management node selected by the user for a job, which corresponds to the number of Flink job managers. The default value is <b>1</b> .                                                                                               |
| parallel_number   | No        | Integer | Number of parallel operations selected for a job. The default value is <b>1</b> .                                                                                                                                                                         |
| log_enabled       | No        | Boolean | Whether to enable the job log function. <ul style="list-style-type: none"><li>● <b>true</b>: indicates to enable the job log function.</li><li>● <b>false</b>: indicates to disable the job log function.</li><li>● Default value: <b>false</b></li></ul> |
| obs_bucket        | No        | String  | OBS path where users are authorized to save logs when <b>log_enabled</b> is set to <b>true</b> .                                                                                                                                                          |
| smn_topic         | No        | String  | SMN topic. If a job fails, the system will send a message to users subscribed to the SMN topic.                                                                                                                                                           |

| Parameter              | Mandatory | Type             | Description                                                                                                                                                                                              |
|------------------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| main_class             | No        | String           | Job entry class.                                                                                                                                                                                         |
| entrypoint_args        | No        | String           | Job entry parameter. Multiple parameters are separated by spaces.                                                                                                                                        |
| restart_when_exception | No        | Boolean          | Whether to enable the function of restart upon exceptions. The default value is <b>false</b> .                                                                                                           |
| entrypoint             | No        | String           | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize the JAR file where the job main class is located.                                  |
| dependency_jars        | No        | Array of Strings | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize other dependency packages.<br>Example: <b>myGroup/test.jar,myGroup/test1.jar</b> . |
| dependency_files       | No        | Array of Strings | Name of the resource package that has been uploaded to the DLI resource management system. This parameter is used to customize dependency files.<br>Example: <b>myGroup/test.csv,myGroup/test1.csv</b> . |
| tm_cus                 | No        | Integer          | Number of CUs for each TaskManager. The default value is <b>1</b> .                                                                                                                                      |
| tm_slot_num            | No        | Integer          | Number of slots in each TaskManager. The default value is <b>(parallel_number*tm_cus)/(cu_number-manager_cu_number)</b> .                                                                                |
| resume_checkpoint      | No        | Boolean          | Whether the abnormal restart is recovered from the checkpoint.                                                                                                                                           |
| resume_max_num         | No        | Integer          | Maximum number of retry times upon exceptions. The unit is times/hour. Value range: -1 or greater than 0. The default value is <b>-1</b> , indicating that the number of times is unlimited.             |
| checkpoint_path        | No        | String           | Storage address of the checkpoint in the JAR file of the user. The path must be unique.                                                                                                                  |
| runtime_config         | No        | String           | Customizes optimization parameters when a Flink job is running.                                                                                                                                          |

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| job_type  | No        | String | Job types.  |

## Response

Table 9-24 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                     |
| job        | No        | object  | Information about job update. For details, see <a href="#">Table 9-25</a> .                                          |

Table 9-25 job parameters

| Parameter   | Mandatory | Type | Description                                          |
|-------------|-----------|------|------------------------------------------------------|
| update_time | No        | Long | Time when a job is updated. The unit is millisecond. |

## Example Request

```
{
 "name": "test1",
 "desc": "job for test",
 "job_type": "flink_jar_job",
 "queue_name": "testQueue",
 "manager_cu_number": 1,
 "cu_number": 2,
 "parallel_number": 1,
 "log_enabled": false,
 "main_class": "org.apache.flink.examples.streaming.JavaQueueStream",
 "restart_when_exception": false,
 "entrypoint": "FemaleInfoCollec.jar",
 "dependency_jars": [
 "myGroup/test.jar",
 "myGroup/test1.jar"
],
 "dependency_files": [
 "myGroup/test.csv",
 "myGroup/test1.csv"
]
}
```

## Example Response

```
{
 "is_success": true,
 "message": "The Flink job is updated successfully.",
 "job": {
 "update_time": 1516952770835
 }
}
```

## Status Codes

[Table 9-26](#) describes status codes.

**Table 9-26** Status codes

| Status Code | Description                                   |
|-------------|-----------------------------------------------|
| 200         | The custom Flink job is updated successfully. |
| 400         | The input parameter is invalid.               |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 9.6 Running Jobs in Batches

## Function

This API is used to trigger batch job running.

## URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/run
- Parameter description

**Table 9-27** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 9-28** Request parameters

| Parameter        | Mandatory | Type          | Description                                                                                                                                                                                                                                                                                                                                                        |
|------------------|-----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_ids          | Yes       | Array of Long | Batch job ID. You can obtain the job ID by calling the API for creating a job or the API for querying a job.                                                                                                                                                                                                                                                       |
| resume_savepoint | No        | Boolean       | Whether to restore a job from the latest savepoint. <ul style="list-style-type: none"> <li>If <b>resume_savepoint</b> is set to <b>true</b>, the job is restored from the latest savepoint.</li> <li>If <b>resume_savepoint</b> is set to <b>false</b>, the job is started normally, not from a specific savepoint.</li> </ul> The default value is <b>false</b> . |

## Response

**Table 9-29** Response parameters

| Parameter      | Mandatory | Type             | Description                                                                                |
|----------------|-----------|------------------|--------------------------------------------------------------------------------------------|
| Array elements | No        | Array of Objects | The response message returned is as follows: For details, see <a href="#">Table 9-30</a> . |

**Table 9-30** Array element parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                     |

## Example Request

```
{
 "job_ids": [131,130,138,137],
```



```
"resume_savepoint": true
}
```

## Example Response

```
[
 {
 "is_success": "true",
 "message": "The request for submitting DLI jobs is delivered successfully."
 },
 {
 "is_success": "true",
 "message": "The request for submitting DLI jobs is delivered successfully."
 },
 {
 "is_success": "true",
 "message": "The request for submitting DLI jobs is delivered successfully."
 },
 {
 "is_success": "true",
 "message": "The request for submitting DLI jobs is delivered successfully."
 }
]
```

## Status Codes

[Table 9-31](#) describes status codes.

**Table 9-31** Status codes

| Status Code | Description                           |
|-------------|---------------------------------------|
| 200         | Jobs are successfully run in batches. |
| 400         | The input parameter is invalid.       |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 9.7 Querying the Job List

## Function

This API is used to query the list of the current user's jobs. You can set the job ID as the ID and query jobs whose IDs are greater than or less than the ID. You can also query jobs in specific status, for example, in running status or other. By default, all jobs are queried.

## URI

- URI format  
GET /v1.0/{project\_id}/streaming/jobs

- Parameter description

**Table 9-32** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 9-33** query parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_type  | No        | String | Job type. <ul style="list-style-type: none"> <li>• <b>flink_sql_job</b>: Flink SQL job</li> <li>• <b>flink_jar_job</b>: User-defined Flink job</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| status    | No        | String | Job status code.<br>Available job statuses are as follows: <ul style="list-style-type: none"> <li>• <b>job_init</b>: The job is in the draft status.</li> <li>• <b>job_submitting</b>: The job is being submitted.</li> <li>• <b>job_submit_fail</b>: The job fails to be submitted.</li> <li>• <b>job_running</b>: The job is running. (After the job is submitted, a normal result is returned.)</li> <li>• <b>job_running_exception</b> (The job stops running due to an exception.)</li> <li>• <b>job_downloading</b>: The job is being downloaded.</li> <li>• <b>job_idle</b>: The job is idle.</li> <li>• <b>job_canceling</b>: The job is being stopped.</li> <li>• <b>job_cancel_success</b>: The job has been stopped.</li> <li>• <b>job_cancel_fail</b>: The job fails to be stopped.</li> <li>• <b>job_savepointing</b>: The savepoint is being created.</li> <li>• <b>job_finish</b>: The job is completed.</li> </ul> |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                           |
|-------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| queue_name  | No        | String  | Name of a queue.                                                                                                                                                                                                      |
| order       | No        | String  | Sorting style of the query results. <ul style="list-style-type: none"> <li>• <b>asc</b>: by time in ascending order</li> <li>• <b>desc</b>: by time in descending order</li> </ul> The default value is <b>desc</b> . |
| limit       | No        | Integer | Number of returned data records. The default value is <b>10</b> and the maximum value is <b>100</b> .                                                                                                                 |
| name        | No        | String  | Name of the job. Length range: 0 to 57 characters.                                                                                                                                                                    |
| offset      | No        | Integer | Job offset.                                                                                                                                                                                                           |
| show_detail | No        | Boolean | Whether to return job details. The default value is <b>false</b> . If this parameter is set to <b>true</b> , the job details are returned. For details, see <a href="#">Querying Job Details</a> .                    |
| user_name   | No        | String  | Username, which can be used as a filter.                                                                                                                                                                              |
| tags        | No        | String  | Specifies a label for filtering.                                                                                                                                                                                      |

## Request

None

## Response

**Table 9-34** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |
| job_list   | No        | Object  | Information about a job list. For details, see <a href="#">Table 9-35</a> .                                          |

**Table 9-35 Job\_list** parameters

| Parameter   | Mandatory | Type             | Description                                                            |
|-------------|-----------|------------------|------------------------------------------------------------------------|
| total_count | No        | Integer          | Number of records in the query result.                                 |
| jobs        | No        | Array of Objects | Information about a job. For details, see <a href="#">Table 9-36</a> . |

**Table 9-36 Jobs** parameters

| Parameter            | Mandatory | Type    | Description                                                                                                                                                                 |
|----------------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_id               | No        | Long    | Job ID.                                                                                                                                                                     |
| name                 | No        | String  | Name of the job. Length range: 0 to 57 characters.                                                                                                                          |
| desc                 | No        | String  | Job description. Length range: 0 to 512 characters.                                                                                                                         |
| username             | No        | String  | Username. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                                                     |
| job_type             | No        | String  | Job type. <ul style="list-style-type: none"> <li>• <b>flink_sql_job</b>: Flink SQL job</li> <li>• <b>flink_jar_job</b>: User-defined Flink job</li> </ul>                   |
| status               | No        | String  | Job status.                                                                                                                                                                 |
| status_desc          | No        | String  | Description of job status.                                                                                                                                                  |
| create_time          | No        | Long    | Time when a job is created.                                                                                                                                                 |
| start_time           | No        | Long    | Time when a job is started. The value <b>0</b> indicates that the process is not started.                                                                                   |
| duration             | No        | Long    | Running duration of a job. Unit: ms. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                          |
| root_id              | No        | Long    | Parent job ID. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                                                |
| graph_editor_enabled | No        | Boolean | Whether the flow diagram can be edited. Value <b>true</b> indicates that the flow diagram can be edited, and <b>false</b> indicates that the flow diagram cannot be edited. |

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| has_savepoint   | No        | Boolean | Whether a job has a savepoint. Value <b>true</b> indicates that the job has a savepoint, and <b>false</b> indicates that the job does not have a savepoint.                                                                                                                                                                                                                                                                                                                                                                            |
| user_id         | No        | String  | ID of the user who creates the job. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> .                                                                                                                                                                                                                                                                                                                                                                                                                       |
| project_id      | No        | String  | ID of the project to which a job belongs. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> .                                                                                                                                                                                                                                                                                                                                                                                                                 |
| sql_body        | No        | String  | Stream SQL statement. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| run_mode        | No        | String  | Job running mode. The options are as follows: The value can be <b>shared_cluster</b> , <b>exclusive_cluster</b> , or <b>edge_node</b> . This parameter is valid only when <b>show_detail</b> is set to <b>true</b> . <ul style="list-style-type: none"> <li>• <b>shared_cluster</b>: indicates that the job is running on a shared cluster.</li> <li>• <b>exclusive_cluster</b>: indicates that the job is running on an exclusive cluster.</li> <li>• <b>edge_node</b>: indicates that the job is running on an edge node.</li> </ul> |
| job_config      | No        | Object  | Job configuration. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> . For details, see <a href="#">Table 9-37</a> .                                                                                                                                                                                                                                                                                                                                                                                         |
| main_class      | No        | String  | Main class of a JAR package. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                                                                                                                                                                                                                                                                                                                                                                                             |
| entrypoint_args | No        | String  | Job running parameter of the JAR file. Multiple parameters are separated by spaces. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> .                                                                                                                                                                                                                                                                                                                                                                       |
| execution_graph | No        | String  | Job execution plan. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| update_time     | No        | Long    | Time when a job is updated. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Table 9-37 job\_config** parameters

| Parameter               | Man<br>dato<br>ry | Type                | Description                                                                                                                                                                                                                                                                               |
|-------------------------|-------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| checkpoint_ena<br>bled  | No                | Boolean             | Whether to enable the automatic job snapshot function.<br><ul style="list-style-type: none"> <li>• <b>true</b>: The automatic job snapshot function is enabled.</li> <li>• <b>false</b>: The automatic job snapshot function is disabled.</li> </ul> The default value is <b>false</b> .  |
| checkpoint_mo<br>de     | No                | String              | Snapshot mode. There are two options:<br><ul style="list-style-type: none"> <li>• <b>exactly_once</b>: indicates that data is processed only once.</li> <li>• <b>at_least_once</b>: indicates that data is processed at least once.</li> </ul> The default value is <b>exactly_once</b> . |
| checkpoint_inte<br>rval | No                | Integer             | Snapshot interval. The unit is second. The default value is <b>10</b> .                                                                                                                                                                                                                   |
| log_enabled             | No                | Boolean             | Whether to enable the log storage function. The default value is <b>false</b> .                                                                                                                                                                                                           |
| obs_bucket              | No                | String              | Name of an OBS bucket.                                                                                                                                                                                                                                                                    |
| smn_topic               | No                | String              | SMN topic name. If a job fails, the system will send a message to users subscribed to the SMN topic.                                                                                                                                                                                      |
| root_id                 | No                | Integer             | Parent job ID.                                                                                                                                                                                                                                                                            |
| edge_group_ids          | No                | Array of<br>Strings | List of edge computing group IDs. Use commas (,) to separate multiple IDs.                                                                                                                                                                                                                |
| manager_cu_nu<br>mber   | No                | Integer             | Number of CUs of the management unit. The default value is <b>1</b> .                                                                                                                                                                                                                     |
| cu_number               | No                | Integer             | Number of CUs selected for a job. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> .<br><ul style="list-style-type: none"> <li>• Minimum value: <b>2</b></li> <li>• Maximum value: <b>400</b></li> </ul> The default value is <b>2</b> .                        |

| Parameter              | Mandatory | Type             | Description                                                                                                                                                                                                                                                              |
|------------------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| parallel_number        | No        | Integer          | Number of concurrent jobs set by a user. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> . <ul style="list-style-type: none"> <li>• Minimum value: <b>1</b></li> <li>• Maximum value: <b>2,000</b></li> </ul> The default value is <b>1</b> . |
| restart_when_exception | No        | Boolean          | Whether to enable the function of restart upon exceptions.                                                                                                                                                                                                               |
| idle_state_retention   | No        | Integer          | Expiration time.                                                                                                                                                                                                                                                         |
| udf_jar_url            | No        | String           | Name of the package that has been uploaded to the DLI resource management system. The <b>UDF Jar</b> file of the SQL job is uploaded through this parameter.                                                                                                             |
| dirty_data_strategy    | No        | String           | Dirty data policy of a job. <ul style="list-style-type: none"> <li>• <b>2:obsDir</b>: Save. <b>obsDir</b> specifies the path for storing dirty data.</li> <li>• <b>1</b>: Trigger a job exception</li> <li>• <b>0</b>: Ignore</li> </ul>                                 |
| entrypoint             | No        | String           | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize the JAR file where the job main class is located.                                                                                                  |
| dependency_jars        | No        | Array of Strings | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize other dependency packages.                                                                                                                         |
| dependency_files       | No        | Array of Strings | Name of the resource package that has been uploaded to the DLI resource management system. This parameter is used to customize dependency files.                                                                                                                         |
| executor_number        | No        | Integer          | Number of compute nodes in a job.                                                                                                                                                                                                                                        |
| executor_cpu_number    | No        | Integer          | Number of CUs in a compute node.                                                                                                                                                                                                                                         |
| resume_checkpoint      | No        | Boolean          | Whether to restore data from the latest checkpoint when the system automatically restarts upon an exception. The default value is <b>false</b> .                                                                                                                         |

## Example Request

None

## Example Response

```
{
 "is_success": "true",
 "message": "Querying of the job list succeeds.",
 "job_list": {
 "total_count": 26,
 "jobs": [
 {
 "job_id": 146,
 "name": "aaaaa",
 "desc": "",
 "user_name": "",
 "job_type": "flink_sql_job",
 "status": "job_init",
 "status_desc": "",
 "create_time": 1578892414688,
 "duration": 0,
 "root_id": -1,
 "graph_editor_enabled": false,
 "has_savepoint": false
 }
]
 }
}
```

## Status Codes

[Table 9-38](#) describes the status code.

**Table 9-38** Status codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 200         | Job list query succeeds.        |
| 400         | The input parameter is invalid. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 9.8 Querying Job Details

## Function

This API is used to query details of a job.



## URI

- URI format  
GET /v1.0/{project\_id}/streaming/jobs/{job\_id}
- Parameter description

**Table 9-39** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | String | Job ID.                                                                                                                                   |

## Request

None

## Response

**Table 9-40** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| job_detail | No        | Object  | Job details. For details, see <a href="#">Table 9-41</a> .                                                                     |

**Table 9-41** Job\_detail parameters

| Parameter | Mandatory | Type   | Description                                         |
|-----------|-----------|--------|-----------------------------------------------------|
| job_id    | No        | Long   | Job ID.                                             |
| name      | No        | String | Name of the job. Length range: 0 to 57 characters.  |
| desc      | No        | String | Job description. Length range: 0 to 512 characters. |

| Parameter      | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_type       | No        | String | Job type.<br><ul style="list-style-type: none"> <li>• <b>flink_sql_job</b>: Flink SQL job</li> <li>• <b>flink_jar_job</b>: User-defined Flink job</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| status         | No        | String | Job status.<br>Available job statuses are as follows: <ul style="list-style-type: none"> <li>• <b>job_init</b>: The job is in the draft status.</li> <li>• <b>job_submitting</b>: The job is being submitted.</li> <li>• <b>job_submit_fail</b>: The job fails to be submitted.</li> <li>• <b>job_running</b>: The job is running. (After the job is submitted, a normal result is returned.)</li> <li>• <b>job_running_exception</b> (The job stops running due to an exception.)</li> <li>• <b>job_downloading</b>: The job is being downloaded.</li> <li>• <b>job_idle</b>: The job is idle.</li> <li>• <b>job_canceling</b>: The job is being stopped.</li> <li>• <b>job_cancel_success</b>: The job has been stopped.</li> <li>• <b>job_cancel_fail</b>: The job fails to be stopped.</li> <li>• <b>job_savepointing</b>: The savepoint is being created.</li> <li>• <b>job_finish</b>: The job is completed.</li> </ul> |
| status_desc    | No        | String | Description of job status.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| create_time    | No        | Long   | Time when a job is created.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| start_time     | No        | Long   | Time when a job is started.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| user_id        | No        | String | ID of the user who creates the job.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| queue_name     | No        | String | Name of a queue. Length range: 1 to 128 characters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| project_id     | No        | String | ID of the project to which a job belongs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| sql_body       | No        | String | Stream SQL statement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| savepoint_path | No        | String | Path for storing manually generated checkpoints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Parameter       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| run_mode        | No        | String | Job running mode. The options are as follows: <ul style="list-style-type: none"> <li>• <b>shared_cluster</b>: indicates that the job is running on a shared cluster.</li> <li>• <b>exclusive_cluster</b>: indicates that the job is running on an exclusive cluster.</li> <li>• <b>edge_node</b>: indicates that the job is running on an edge node.</li> </ul> |
| job_config      | No        | Object | Job configurations. Refer to <a href="#">Table 9-42</a> for details.                                                                                                                                                                                                                                                                                            |
| main_class      | No        | String | Main class of a JAR package, for example, <b>org.apache.spark.examples.streaming.JavaQueueStream</b> .                                                                                                                                                                                                                                                          |
| entrypoint_args | No        | String | Running parameter of a JAR package job. Multiple parameters are separated by spaces.                                                                                                                                                                                                                                                                            |
| execution_graph | No        | String | Job execution plan.                                                                                                                                                                                                                                                                                                                                             |
| update_time     | No        | Long   | Time when a job is updated.                                                                                                                                                                                                                                                                                                                                     |

**Table 9-42** job\_config parameters

| Parameter           | Mandatory | Type    | Description                                                                                                                                                                                                                                                                           |
|---------------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| checkpoint_enabled  | No        | Boolean | Whether to enable the automatic job snapshot function. <ul style="list-style-type: none"> <li>• <b>true</b>: The automatic job snapshot function is enabled.</li> <li>• <b>false</b>: The automatic job snapshot function is disabled.</li> </ul> The default value is <b>false</b> . |
| checkpoint_interval | No        | Integer | Snapshot interval. The unit is second. The default value is <b>10</b> .                                                                                                                                                                                                               |

| Parameter            | Mandatory | Type             | Description                                                                                                                                                                                                                                                                         |
|----------------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| checkpoint_mode      | No        | String           | Snapshot mode. There are two options: <ul style="list-style-type: none"><li>• <b>exactly_once</b>: indicates that data is processed only once.</li><li>• <b>at_least_once</b>: indicates that data is processed at least once.</li></ul> The default value is <b>exactly_once</b> . |
| log_enabled          | No        | Boolean          | Whether to enable the log storage function. The default value is <b>false</b> .                                                                                                                                                                                                     |
| obs_bucket           | No        | String           | Name of an OBS bucket.                                                                                                                                                                                                                                                              |
| root_id              | No        | Integer          | Parent job ID.                                                                                                                                                                                                                                                                      |
| edge_group_ids       | No        | Array of Strings | List of edge computing group IDs. Use commas (,) to separate multiple IDs.                                                                                                                                                                                                          |
| manager_cu_number    | No        | Integer          | Number of CUs of the management unit. The default value is <b>1</b> .                                                                                                                                                                                                               |
| graph_editor_enabled | No        | Boolean          | Whether to enable flow diagram editing. The default value is <b>false</b> .                                                                                                                                                                                                         |
| graph_editor_data    | No        | String           | Data of flow diagram editing. The default value is <b>null</b> .                                                                                                                                                                                                                    |
| executor_number      | No        | Integer          | Number of compute nodes in a job.                                                                                                                                                                                                                                                   |
| executor_cu_number   | No        | Integer          | Number of CUs in a compute node.                                                                                                                                                                                                                                                    |
| cu_number            | No        | Integer          | Number of CUs selected for a job. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> . <ul style="list-style-type: none"><li>• Minimum value: <b>2</b></li><li>• Maximum value: <b>400</b></li></ul> The default value is <b>2</b> .                        |
| parallel_number      | No        | Integer          | Number of concurrent jobs set by a user. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> . <ul style="list-style-type: none"><li>• Minimum value: <b>1</b></li><li>• Maximum value: <b>2000</b></li></ul> The default value is <b>1</b> .                |
| smn_topic            | No        | String           | SMN topic name. If a job fails, the system will send a message to users subscribed to this SMN topic.                                                                                                                                                                               |

| Parameter              | Mandatory | Type             | Description                                                                                                                                                                                                                              |
|------------------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| restart_when_exception | No        | Boolean          | Whether to enable the function of restart upon exceptions.                                                                                                                                                                               |
| resume_checkpoint      | No        | Boolean          | Whether to restore data from the latest checkpoint when the system automatically restarts upon an exception. The default value is <b>false</b> .                                                                                         |
| resume_max_num         | No        | Integer          | Maximum retry attempts. <b>-1</b> indicates there is no upper limit.                                                                                                                                                                     |
| checkpoint_path        | No        | String           | Path for saving the checkpoint.                                                                                                                                                                                                          |
| idle_state_retention   | No        | Integer          | Expiration time.                                                                                                                                                                                                                         |
| config_url             | No        | String           | OBS path of the <b>config</b> package uploaded by the user.                                                                                                                                                                              |
| udf_jar_url            | No        | String           | Name of the package that has been uploaded to the DLI resource management system. The <b>UDF Jar</b> file of the SQL job is uploaded through this parameter.                                                                             |
| dirty_data_strategy    | No        | String           | Dirty data policy of a job. <ul style="list-style-type: none"> <li>● <b>2:obsDir</b>: Save. <b>obsDir</b> specifies the path for storing dirty data.</li> <li>● <b>1</b>: Trigger a job exception</li> <li>● <b>0</b>: Ignore</li> </ul> |
| entrypoint             | No        | String           | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize the JAR file where the job main class is located.                                                                  |
| dependency_jars        | No        | Array of Strings | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize other dependency packages.                                                                                         |
| dependency_files       | No        | Array of Strings | Name of the resource package that has been uploaded to the DLI resource management system. This parameter is used to customize dependency files.                                                                                         |
| tm_cus                 | No        | int              | Number of CUs per TaskManager node.                                                                                                                                                                                                      |
| tm_slot_num            | No        | int              | Number of slots per TaskManager node.                                                                                                                                                                                                    |

| Parameter               | Mandatory | Type   | Description                                                                                            |
|-------------------------|-----------|--------|--------------------------------------------------------------------------------------------------------|
| operator_config         | No        | String | Operator's parallelism degree. The operator ID and degree of parallelism are displayed in JSON format. |
| static_estimator_config | No        | String | Estimation of static flow diagram resources.                                                           |
| runtime_config          | No        | String | Customizes optimization parameters when a Flink job is running.                                        |

## Example Request

None

## Example Response

- The following example takes the **flink\_jar\_job** type as an example:

```
{
 "is_success": "true",
 "message": "Querying of the job details succeeds.",
 "job_detail": {
 "job_id": 104,
 "user_id": "011c99a26ae84a1bb963a75e7637d3fd",
 "queue_name": "flinktest",
 "project_id": "330e068af1334c9782f4226acc00a2e2",
 "name": "jptest",
 "desc": "",
 "sql_body": "",
 "run_mode": "exclusive_cluster",
 "job_type": "flink_jar_job",
 "job_config": {
 "checkpoint_enabled": false,
 "checkpoint_interval": 10,
 "checkpoint_mode": "exactly_once",
 "log_enabled": false,
 "obs_bucket": null,
 "root_id": -1,
 "edge_group_ids": null,
 "graph_editor_enabled": false,
 "graph_editor_data": "",
 "manager_cu_number": 1,
 "executor_number": null,
 "executor_cu_number": null,
 "cu_number": 2,
 "parallel_number": 1,
 "smn_topic": null,
 "restart_when_exception": false,
 "idle_state_retention": 3600,
 "config_url": null,
 "udf_jar_url": null,
 "dirty_data_strategy": null,
 "entrypoint": "FemaleInfoCollection.jar",
 "dependency_jars": [
 "FemaleInfoCollection.jar",
 "ObsBatchTest.jar"
],
 "dependency_files": [
 "FemaleInfoCollection.jar",

```

```
 "ReadFromResource"
]
 },
 "main_class": null,
 "entrypoint_args": null,
 "execution_graph": null,
 "status": "job_init",
 "status_desc": "",
 "create_time": 1578466221525,
 "update_time": 1578467395713,
 "start_time": null
 }
}
```

- The following example takes the **flink\_opensource\_sql\_job** type as an example:

```
{
 "is_success": "true",
 "message": "The job information query succeeds.",
 "job_detail": {
 "job_type": "flink_opensource_sql_job",
 "status_desc": "",
 "create_time": 1637632872828,
 "sql_body": "xxx",
 "savepoint_path": null,
 "main_class": null,
 "queue_name": "xie_container_general",
 "execution_graph": "xxx",
 "start_time": 1638433497621,
 "update_time": 1638449337993,
 "job_config": {
 "checkpoint_enabled": true,
 "checkpoint_interval": 600,
 "checkpoint_mode": "exactly_once",
 "log_enabled": true,
 "obs_bucket": "dli-test",
 "root_id": -1,
 "edge_group_ids": null,
 "graph_editor_enabled": false,
 "graph_editor_data": "",
 "manager_cu_number": 1,
 "executor_number": null,
 "executor_cu_number": null,
 "cu_number": 2,
 "parallel_number": 3,
 "smn_topic": "",
 "restart_when_exception": true,
 "resume_checkpoint": true,
 "resume_max_num": -1,
 "checkpoint_path": null,
 "idle_state_retention": 3600,
 "config_url": null,
 "udf_jar_url": "test/flink_test-1.0-SNAPSHOT-jar-with-dependencies.jar",
 "dirty_data_strategy": "0",
 "entrypoint": "test/flink_test-1.0-SNAPSHOT-jar-with-dependencies.jar",
 "dependency_jars": null,
 "dependency_files": null,
 "tm_cus": 1,
 "tm_slot_num": 3,
 "image": null,
 "feature": null,
 "flink_version": null,
 "operator_config": "xxx",
 "static_estimator_config": "xxx",
 "runtime_config": null
 },
 "user_id": "xxx",
 "project_id": "xxx",
 "run_mode": "exclusive_cluster",
 "job_id": 90634,
 }
}
```

```
"name": "test_guoquan",
"desc": "",
"entrypoint_args": null,
"status": "job_cancel_success"
}
```

## Status Codes

**Table 9-43** describes the status code.

**Table 9-43** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | Querying details of a job succeeds. |
| 400         | The input parameter is invalid.     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 9.9 Querying the Job Execution Plan

## Function

This API is used to query a job execution plan.

## URI

- URI format  
GET /v1.0/{project\_id}/streaming/jobs/{job\_id}/execute-graph
- Parameter description

**Table 9-44** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | Long   | Job ID.                                                                                                                                   |

## Request

None



## Response

**Table 9-45** Response parameters

| Parameter     | Mandatory | Type    | Description                                                                               |
|---------------|-----------|---------|-------------------------------------------------------------------------------------------|
| is_success    | No        | Boolean | Whether the request is successful.                                                        |
| message       | No        | String  | Message content.                                                                          |
| execute_graph | No        | Object  | Response parameter for querying a job plan. For details, see <a href="#">Table 9-46</a> . |

**Table 9-46** execute\_graph parameters

| Parameter   | Mandatory | Type    | Description                   |
|-------------|-----------|---------|-------------------------------|
| jid         | No        | String  | ID of a Flink job.            |
| name        | No        | String  | Name of a Flink job.          |
| isStoppable | No        | Boolean | Whether a job can be stopped. |
| state       | No        | String  | Execution status of a job.    |
| start-time  | No        | Long    | Time when a job is started.   |
| end-time    | No        | Long    | Time when a job is stopped.   |
| duration    | No        | Long    | Running duration of a job.    |

## Example Request

None

## Example Response

```
{
 "is_success": "true",
 "message": "Querying the job execution graph succeeds.",
 "execute_graph": {
 "jid": "4e966f43f2c90b0e1bf3188ecf55504b",
 "name": "",
 "isStoppable": false,
 "state": "RUNNING",
 "start-time": 1578904488436,
 "end-time": -1,
 "duration": 516274
 }
}
```

## Status Codes

**Table 9-47** Status codes

| Status Code | Description                               |
|-------------|-------------------------------------------|
| 200         | Querying the job execution plan succeeds. |
| 400         | The input parameter is invalid.           |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 9.10 Stopping Jobs in Batches

### Function

This API is used to stop running jobs in batches.

### URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/stop
- Parameter description

**Table 9-48** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request

**Table 9-49** Request parameters

| Parameter | Mandatory | Type          | Description |
|-----------|-----------|---------------|-------------|
| job_ids   | Yes       | Array of Long | Job ID.     |

| Parameter         | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_savepoint | No        | Boolean | Whether to create a savepoint for a job to store the job status information before stopping it. The data type is Boolean. <ul style="list-style-type: none"> <li>If this parameter is set to <b>true</b>, a savepoint is created.</li> <li>If this parameter is set to <b>false</b>, no savepoint is created. The default value is <b>false</b>.</li> </ul> |

## Response

**Table 9-50** Response parameters

| Parameter      | Mandatory | Type             | Description                                                                                |
|----------------|-----------|------------------|--------------------------------------------------------------------------------------------|
| Array elements | No        | Array of Objects | The response message returned is as follows: For details, see <a href="#">Table 9-51</a> . |

**Table 9-51** Array element parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content                                                                                                      |

## Example Request

```
{
 "job_ids": [128, 137],
 "trigger_savepoint": false
}
```

## Example Response

```
{
 "is_success": "true",
 "message": "The request for stopping DLI jobs is delivered successfully."
}
```

## Status Codes

[Table 9-52](#) describes status codes.

**Table 9-52** Status codes

| Status Code | Description                                         |
|-------------|-----------------------------------------------------|
| 200         | The request of stopping a job is sent successfully. |
| 400         | The input parameter is invalid.                     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 9.11 Deleting a Job

## Function

This API is used to delete a Flink job at any state.

 **NOTE**

The job records will not be deleted.

## URI

- URI format  
DELETE /v1.0/{project\_id}/streaming/jobs/{job\_id}
- Parameter description

**Table 9-53** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | Long   | Job ID.                                                                                                                                   |

## Request

None

## Response

**Table 9-54** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |

## Example Request

None

## Example Response

```
{
 "is_success": "true",
 "message": "The job is deleted successfully.",
}
```

## Status Code

[Table 9-55](#) describes status codes.

**Table 9-55** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is deleted successfully. |
| 400         | The input parameter is invalid.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 9.12 Deleting Jobs in Batches

## Function

This API is used to batch delete jobs at any state.

## URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/delete
- Parameter description

**Table 9-56** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 9-57** Request parameters

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| job_ids   | Yes       | [Long] | Job ID.     |

## Response

**Table 9-58** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |

## Example Request

```
{
 "job_ids": [12, 232]
}
```

## Example Response

```
{
 "is_success": "true",
 "message": "The job is deleted successfully."
}
```

## Status Codes

[Table 9-59](#) describes status codes.

**Table 9-59** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is deleted successfully. |
| 400         | The input parameter is invalid.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 9.13 Exporting a Flink Job

## Function

This API is used to export Flink job data.

## URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/export
- Parameter description

**Table 9-60** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 9-61** Request parameters

| Parameter   | Mandatory | Type    | Description                              |
|-------------|-----------|---------|------------------------------------------|
| obs_dir     | Yes       | String  | OBS path for storing exported job files. |
| is_selected | Yes       | Boolean | Whether to export a specified job.       |

| Parameter    | Mandatory | Type           | Description                                                                                                                                                                                                |
|--------------|-----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_selected | No        | Array of Longs | This parameter indicates the ID set of jobs to be exported if <b>is_selected</b> is set to <b>true</b> .<br><br><b>NOTE</b><br>This parameter is mandatory when <b>is_selected</b> is set to <b>true</b> . |

## Response

**Table 9-62** Response parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                    |
|------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean          | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| zip_file   | No        | Array of Strings | Name of the ZIP package containing exported jobs. The ZIP package is stored on OBS.                                            |

## Example Request

```
{
 "obs_dir": "obs-test",
 "is_selected": true,
 "job_selected": [100]
}
```

## Example Response

```
{
 "is_success": true,
 "message": "The job is exported successfully.",
 "zip_file": ["obs-test/aggregate_1582677879475.zip"]
}
```

## Status Codes

[Table 9-63](#) describes status codes.



**Table 9-63** Status codes

| Status Code | Description                       |
|-------------|-----------------------------------|
| 200         | The job is exported successfully. |
| 400         | The input parameter is invalid.   |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 9.14 Importing a Flink Job

## Function

This API is used to import Flink job data.

## URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/import
- Parameter description

**Table 9-64** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 9-65** Request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                     |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| zip_file  | Yes       | String | Path of the job ZIP file imported from OBS. You can enter a folder path to import all ZIP files in the folder.<br><b>NOTE</b><br>The folder can contain only <b>.zip</b> files. |

| Parameter | Mandatory | Type    | Description                                                                                                                  |
|-----------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------|
| is_cover  | No        | Boolean | Whether to overwrite an existing job if the name of the imported job is the same as that of the existing job in the service. |

## Response

**Table 9-66** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                                    |
|-------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success  | No        | Boolean          | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message     | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| job_mapping | No        | Array of Objects | Information about the imported job. For details, see <a href="#">Table 9-67</a> .                                              |

**Table 9-67** job\_mapping parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                         |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| old_job_id | No        | Long   | ID of a job before being imported.                                                                                                                                                  |
| new_job_id | No        | Long   | ID of a job after being imported. If <b>is_cover</b> is set to <b>false</b> and a job with the same name exists in the service, the returned value of this parameter is <b>-1</b> . |
| remark     | No        | String | Results about an imported job.                                                                                                                                                      |

## Example Request

```
{
 "zip_file": "test/gggregate_1582677879475.zip",
 "is_cover": true
}
```

## Example Response

```
{
 "is_success": true,
```

```
"message": "The job is imported successfully.",
"job_mapping": [
 {
 "old_job_id": "100",
 "new_job_id": "200",
 "remark": "Job successfully created"
 }
]
```

## Status Codes

[Table 9-68](#) describes status codes.

**Table 9-68** Status codes

| Status Code | Description                       |
|-------------|-----------------------------------|
| 200         | The job is imported successfully. |
| 400         | The input parameter is invalid.   |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 10 APIs Related to Spark jobs

---

## 10.1 Batch Processing-related APIs

### 10.1.1 Creating a Batch Processing Job

#### Function

This API is used to create a batch processing job in a queue.

#### URI

- URI format  
POST /v2.0/{project\_id}/batches
- Parameter description

**Table 10-1** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 10-2** Request parameters

| Parameter    | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| file         | Yes       | String           | Name of the package that is of the JAR or pyFile type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .                                                                                                                                                                                                                                                                       |
| class_name   | Yes       | String           | Java/Spark main class of the batch processing job.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| queue        | Yes       | String           | Queue name. Set this parameter to the name of the created DLI queue. The queue must be of the general-purpose type.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is compatible with the <b>cluster_name</b> parameter. That is, if <b>cluster_name</b> is used to specify a queue, the queue is still valid.</li> <li>You are advised to use the <b>queue</b> parameter. The <b>queue</b> and <b>cluster_name</b> parameters cannot coexist.</li> </ul> |
| cluster_name | No        | String           | Queue name. Set this parameter to the created DLI queue name.<br><b>NOTE</b><br>You are advised to use the <b>queue</b> parameter. The <b>queue</b> and <b>cluster_name</b> parameters cannot coexist.                                                                                                                                                                                                                                                                          |
| args         | No        | Array of Strings | Input parameters of the main class, that is, application parameters.                                                                                                                                                                                                                                                                                                                                                                                                            |
| sc_type      | No        | String           | Compute resource type. Currently, resource types A, B, and C are available. If this parameter is not specified, the minimum configuration (type A) is used. For details about resource types, see <a href="#">Table 10-3</a> .                                                                                                                                                                                                                                                  |
| jars         | No        | Array of Strings | Name of the package that is of the JAR type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .                                                                                                                                                                                                                                                                                 |
| python_files | No        | Array of Strings | Name of the package that is of the PyFile type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .                                                                                                                                                                                                                                                                              |

| Parameter     | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| files         | No        | Array of Strings | Name of the package that is of the file type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .                                                                                                                                                                                                                                                                                                                                                                                         |
| modules       | No        | Array of Strings | Name of the dependent system resource module. You can view the module name using the API related to <a href="#">Querying Resource Packages in a Group</a> .<br><br>DLI provides dependencies for executing datasource jobs. The following table lists the dependency modules corresponding to different services. <ul style="list-style-type: none"> <li>• MRS HBase: sys.datasource.hbase</li> <li>• MRS OpenTSDB: sys.datasource.opentsdb</li> <li>• RDS MySQL: sys.datasource.rds</li> <li>• RDS Postgre: preset</li> <li>• DWS: preset</li> <li>• CSS: sys.datasource.css</li> </ul> |
| resources     | No        | Array of Objects | JSON object list, including the name and type of the JSON package that has been uploaded to the queue. For details, see <a href="#">Table 10-4</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| groups        | No        | Array of Objects | JSON object list, including the package group resource. For details about the format, see the request example. If the type of the <b>name</b> in <b>resources</b> is not verified, the package with the name exists in the group. For details, see <a href="#">Table 10-5</a> .                                                                                                                                                                                                                                                                                                          |
| conf          | No        | Array of Objects | <b>Batch</b> configuration item.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| name          | No        | String           | Batch processing task name. The value contains a maximum of 128 characters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| driver_memory | No        | String           | Driver memory of the Spark application, for example, <b>2 GB</b> and <b>2048 MB</b> . This configuration item replaces the default parameter in <b>sc_type</b> . The unit must be provided. Otherwise, the startup fails.                                                                                                                                                                                                                                                                                                                                                                |
| driver_cores  | No        | Integer          | Number of CPU cores of the Spark application driver. This configuration item replaces the default parameter in <b>sc_type</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                 |
|-----------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| executor_memory | No        | String  | Executor memory of the Spark application, for example, <b>2 GB</b> and <b>2048 MB</b> . This configuration item replaces the default parameter in <b>sc_type</b> . The unit must be provided. Otherwise, the startup fails. |
| executor_cores  | No        | Integer | Number of CPU cores of each Executor in the Spark application. This configuration item replaces the default parameter in <b>sc_type</b> .                                                                                   |
| num_executors   | No        | Integer | Number of Executors in a Spark application. This configuration item replaces the default parameter in <b>sc_type</b> .                                                                                                      |
| obs_bucket      | No        | String  | OBS bucket for storing the Spark jobs. Set this parameter when you need to save jobs.                                                                                                                                       |
| auto_recover    | No        | Boolean | Whether to enable the retry function. If enabled, Spark jobs will be automatically retried after an exception occurs. The default value is <b>false</b> .                                                                   |
| max_retry_times | No        | Integer | Maximum retry times. The maximum value is <b>100</b> , and the default value is <b>20</b> .                                                                                                                                 |
| catalog_name    | No        | String  | To access metadata, set this parameter to <b>dli</b> .                                                                                                                                                                      |

**Table 10-3** Resource types

| Resource Type | Physical Resource       | driverCores | executorCores | driverMemory | executorMemory | numExecutor |
|---------------|-------------------------|-------------|---------------|--------------|----------------|-------------|
| A             | 8 vCPUs, 32-GB memory   | 2           | 1             | 7 GB         | 4 GB           | 6           |
| B             | 16 vCPUs, 64-GB memory  | 2           | 2             | 7 GB         | 8 GB           | 7           |
| C             | 32 vCPUs, 128-GB memory | 4           | 2             | 15 GB        | 8 GB           | 14          |

**Table 10-4 resources** parameters

| Parameter | Mandatory | Type   | Description                                                                                          |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------|
| name      | No        | String | Resource name You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> . |
| type      | No        | String | Resource type.                                                                                       |

**Table 10-5 groups** parameters

| Parameter | Mandatory | Type             | Description                                                       |
|-----------|-----------|------------------|-------------------------------------------------------------------|
| name      | No        | String           | User group name                                                   |
| resources | No        | Array of Objects | User group resource For details, see <a href="#">Table 10-4</a> . |

## Response

**Table 10-6 Response** parameters

| Parameter | Mandatory | Type             | Description                                                                     |
|-----------|-----------|------------------|---------------------------------------------------------------------------------|
| id        | No        | String           | ID of a batch processing job.                                                   |
| appld     | No        | Array of strings | Back-end application ID of a batch processing job.                              |
| name      | No        | String           | Batch processing task name. The value contains a maximum of 128 characters.     |
| owner     | No        | String           | Owner of a batch processing job.                                                |
| proxyUser | No        | String           | Proxy user (resource tenant) to which a batch processing job belongs.           |
| state     | No        | String           | Status of a batch processing job. For details, see <a href="#">Table 10-7</a> . |
| kind      | No        | String           | Type of a batch processing job. Only Spark parameters are supported.            |
| log       | No        | Array of strings | Last 10 records of the current batch processing job.                            |



| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sc_type      | No        | String | Type of a computing resource. If the computing resource type is customized, value <b>CUSTOMIZED</b> is returned.                                                                                                                                                                                                                                                                                                                 |
| cluster_name | No        | String | Queue where a batch processing job is located.                                                                                                                                                                                                                                                                                                                                                                                   |
| queue        | Yes       | String | Queue name. Set this parameter to the name of the created DLI queue.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is compatible with the <b>cluster_name</b> parameter. That is, if <b>cluster_name</b> is used to specify a queue, the queue is still valid.</li> <li>You are advised to use the <b>queue</b> parameter. The <b>queue</b> and <b>cluster_name</b> parameters cannot coexist.</li> </ul> |
| create_time  | No        | Long   | Time when a batch processing job is created. The timestamp is expressed in milliseconds.                                                                                                                                                                                                                                                                                                                                         |
| update_time  | No        | Long   | Time when a batch processing job is updated. The timestamp is expressed in milliseconds.                                                                                                                                                                                                                                                                                                                                         |

**Table 10-7** Batch processing job statuses

| Parameter  | Type   | Description                                        |
|------------|--------|----------------------------------------------------|
| starting   | String | The batch processing job is being started.         |
| running    | String | The batch processing job is executing a task.      |
| dead       | String | The batch processing job has exited.               |
| success    | String | The batch processing job is successfully executed. |
| recovering | String | The batch processing job is being restored.        |

### Example Request

```
{
 "file": "batchTest/spark-examples_2.11-2.1.0.luxor.jar",
 "class_name": "org.apache.spark.examples.SparkPi",
 "sc_type": "A",
 "jars": ["demo-1.0.0.jar"],
 "files": ["count.txt"],
 "resources": [
 {"name": "groupTest/testJar.jar", "type": "jar"},
 {"name": "kafka-clients-0.10.0.0.jar", "type": "jar"}
],
 "groups": [
```

```
{
 "name": "groupTestJar", "resources": [{"name": "testJar.jar", "type": "jar"}, {"name":
"testJar1.jar", "type": "jar"}]},
 "name": "batchTest", "resources": [{"name": "luxor.jar", "type": "jar"}]},
 "queue": " test",
 "name": "TestDemo4"
}
```

#### NOTE

The **batchTest/spark-examples\_2.11-2.1.0.luxor.jar** file has been uploaded through API involved in [Uploading a Package Group](#).

## Example Response

```
{
 "id": "07a3e4e6-9a28-4e92-8d3f-9c538621a166",
 "appId": "",
 "name": "",
 "owner": "test1",
 "proxyUser": "",
 "state": "starting",
 "kind": "",
 "log": [],
 "sc_type": "CUSTOMIZED",
 "cluster_name": "aaa",
 "queue": "aaa",
 "create_time": 1607589874156,
 "update_time": 1607589874156
}
```

## Status Codes

[Table 10-8](#) describes the status code.

**Table 10-8** Status code

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is created successfully. |
| 400         | Request error.                   |
| 500         | Internal service error.          |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 10.1.2 Canceling a Batch Processing Job

### Function

This API is used to cancel a batch processing job.

 NOTE

Batch processing jobs in the **Successful** or **Failed** state cannot be canceled.

## URI

- URI format  
DELETE /v2.0/{project\_id}/batches/{batch\_id}
- Parameter description

**Table 10-9** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| batch_id   | Yes       | String | ID of a batch processing job. Set the value to the job ID obtained in <a href="#">Creating a Batch Processing Job</a> .                   |

## Request

None

## Response

**Table 10-10** Response parameter

| Parameter | Mandatory | Type   | Description                                                                             |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------|
| msg       | No        | String | If the batch processing job is successfully canceled, value <b>deleted</b> is returned. |

## Example Request

None

## Example Response

```
{
 "msg": "deleted"
}
```

## Status Codes

[Table 10-11](#) describes the status code.

**Table 10-11** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Deletion succeeded.     |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 10.1.3 Obtaining the List of Batch Processing Jobs

### Function

This API is used to obtain the list of batch processing jobs in a queue of a project.

### URI

- URI format  
GET /v2.0/{project\_id}/batches
- Parameter description

**Table 10-12** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 10-13** query parameter description

| Parameter | Mandatory | Type   | Description                                                |
|-----------|-----------|--------|------------------------------------------------------------|
| job_name  | No        | String | Name of a batch processing job.                            |
| job_id    | No        | String | This API is used to query a batch job based on the job ID. |

| Parameter    | Mandatory | Type    | Description                                                                                                                                                                                          |
|--------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cluster_name | No        | String  | DLI queue name. If this parameter is left blank, the names of all batch processing jobs in the current project are obtained. You are advised to specify this parameter, instead of leaving it blank. |
| queue_name   | No        | String  | DLI queue name. You can query batch jobs based on the queue name. This method is recommended.                                                                                                        |
| from         | No        | Integer | Index number of the start batch processing job. By default, the index number starts from 0.                                                                                                          |
| size         | No        | Integer | Number of batch processing jobs to be queried                                                                                                                                                        |
| state        | No        | String  | Query batch jobs by job status.                                                                                                                                                                      |
| owner        | No        | String  | User who submits a job.                                                                                                                                                                              |

## Request

None

## Response

**Table 10-14** Response parameter description

| Parameter   | Mandatory | Type             | Description                                                                                                             |
|-------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------|
| from        | No        | Integer          | Index number of the start batch processing job.                                                                         |
| total       | No        | Integer          | Total number of batch processing jobs.                                                                                  |
| sessions    | No        | Array of objects | Batch job information. For details, see <a href="#">Table 10-6</a> in <a href="#">Creating a Batch Processing Job</a> . |
| create_time | No        | Long             | Time when a batch processing job is created.                                                                            |

## Example Request

None

## Example Response

```
{
 "from": 0,
```

```

"total": 1,
"sessions": [
 {
 "id": "178fa687-2e8a-41ed-a439-b00de60bb176",
 "state": "dead",
 "appld": null,
 "log": [
 "stdout: ",
 "stderr: ",
 "YARN Diagnostics: "
],
 "sc_type": "A",
 "cluster_name": "test",
 "create_time": 1531906043036
 }
]

```

## Status Codes

[Table 10-15](#) describes the status code.

**Table 10-15** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 10.1.4 Querying Batch Job Details

### Function

This API is used to query details about a batch processing job based on the job ID.

### URI

- URI format  
GET /v2.0/{project\_id}/batches/{batch\_id}
- Parameter description

**Table 10-16** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| batch_id   | Yes       | String | ID of a batch processing job.                                                                                                             |

## Request

None

## Response

**Table 10-17** Response parameters

| Parameter    | Mandatory | Type             | Description                                                                                                                        |
|--------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------|
| id           | No        | String           | ID of a batch processing job.                                                                                                      |
| appld        | No        | Array of strings | Back-end application ID of a batch processing job.                                                                                 |
| name         | No        | String           | Name of a batch processing job.                                                                                                    |
| owner        | No        | String           | Owner of a batch processing job.                                                                                                   |
| proxyUser    | No        | String           | Proxy user (resource tenant) to which a batch processing job belongs.                                                              |
| state        | No        | String           | Status of a batch processing job. For details, see <a href="#">Table 10-7</a> in <a href="#">Creating a Batch Processing Job</a> . |
| kind         | No        | String           | Type of a batch processing job. Only Spark parameters are supported.                                                               |
| log          | No        | Array of Strings | Last 10 records of the current batch processing job.                                                                               |
| sc_type      | No        | String           | Type of a computing resource. If the computing resource type is customized, value <b>CUSTOMIZED</b> is returned.                   |
| cluster_name | No        | String           | Queue where a batch processing job is located.                                                                                     |
| queue        | No        | String           | Queue where a batch processing job is located.                                                                                     |

| Parameter   | Mandatory | Type | Description                                                                              |
|-------------|-----------|------|------------------------------------------------------------------------------------------|
| create_time | No        | Long | Time when a batch processing job is created. The timestamp is expressed in milliseconds. |
| update_time | No        | Long | Time when a batch processing job is updated. The timestamp is expressed in milliseconds. |

### Example Request

None

### Example Response

```
{
 "id": "0a324461-d9d9-45da-a52a-3b3c7a3d809e",
 "appId": "",
 "name": "",
 "owner": "",
 "proxyUser": "",
 "state": "starting",
 "kind": "",
 "log": [
 {
 "stdout": "",
 "stderr": "",
 "YARN Diagnostics": ""
 }
],
 "sc_type": "A",
 "cluster_name": "test",
 "queue": "test",
 "create_time": 1531906043036,
 "update_time": 1531906043036
}
```

### Status Codes

[Table 10-18](#) describes the status code.

**Table 10-18** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).



## 10.1.5 Querying a Batch Job Status

### Function

This API is used to obtain the execution status of a batch processing job.

### URI

- URI format  
GET /v2.0/{project\_id}/batches/{batch\_id}/state
- Parameter description

**Table 10-19** URI parameters

| Parameter  | Mandatory | Description                                                                                                                               |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| batch_id   | Yes       | ID of a batch processing job.                                                                                                             |

### Request

None

### Response

**Table 10-20** Response parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                        |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------|
| id        | No        | String | ID of a batch processing job, which is in the universal unique identifier (UUID) format.                                           |
| state     | No        | String | Status of a batch processing job. For details, see <a href="#">Table 10-7</a> in <a href="#">Creating a Batch Processing Job</a> . |

### Example Request

None

### Example Response

```
{"id":"0a324461-d9d9-45da-a52a-3b3c7a3d809e","state":"Success"}
```

## Status Codes

[Table 10-21](#) describes the status code.

**Table 10-21** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 10.1.6 Querying Batch Job Logs

### Function

This API is used to query the back-end logs of batch processing jobs.

### URI

- URI format  
GET /v2.0/{project\_id}/batches/{batch\_id}/log
- Parameter description

**Table 10-22** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| batch_id   | Yes       | String | ID of a batch processing job.                                                                                                             |

**Table 10-23** Request parameters

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                    |
|-----------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| from      | No        | Integer | Start line of the log to be displayed. By default, the last 100 lines of the log are displayed. If a log file contains fewer than 100 lines, line 0 is the start line.                                                                                                                                                                         |
| size      | No        | Integer | Number of logs to be queried.                                                                                                                                                                                                                                                                                                                  |
| type      | No        | String  | If <b>type</b> is set to <b>driver</b> , the Spark Driver log is generated.                                                                                                                                                                                                                                                                    |
| index     | No        | Integer | When a submitted job is retried, multiple driver logs are generated. This parameter specifies the <b>index</b> number of the specified driver log. The default value is <b>0</b> . This parameter must be used together with the <b>type</b> parameter. If only <b>index</b> is specified, the default value of <b>type</b> is <b>driver</b> . |

## Request

None

## Response

**Table 10-24** Response parameters

| Parameter | Mandatory | Type             | Description                              |
|-----------|-----------|------------------|------------------------------------------|
| id        | No        | String           | ID of a batch processing job.            |
| from      | No        | String           | Start index of a log.                    |
| total     | No        | Long             | Total number of records in a log.        |
| log       | No        | Array of Strings | Log of the current batch processing job. |

## Example Request

None

## Example Response

```
{
 "id": "0a324461-d9d9-45da-a52a-3b3c7a3d809e",
 "from": 0,
```

```
"total": 3,
"log": [
 "Detailed information about job logs"
]
}
```

## Status Codes

[Table 10-25](#) describes the status code.

**Table 10-25** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 11 APIs Related to Flink Job Templates

## 11.1 Creating a Template

### Function

This API is used to create a user template for the DLI service. A maximum of 100 user templates can be created.

### URI

- URI format  
POST /v1.0/{project\_id}/streaming/job-templates
- Parameter description

**Table 11-1** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request

**Table 11-2** Request parameters

| Parameter | Mandatory | Type   | Description                                              |
|-----------|-----------|--------|----------------------------------------------------------|
| name      | Yes       | String | Template name. The value can contain 1 to 64 characters. |

| Parameter | Mandatory | Type             | Description                                                                                                                                                      |
|-----------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| desc      | No        | String           | Template description. Length range: 0 to 512 characters.                                                                                                         |
| sql_body  | No        | String           | Stream SQL statement, which includes at least the following three parts: source, query, and sink. Length range: 0 to 2,048 characters.                           |
| tags      | No        | Array of Objects | Label of a Flink job template. For details, see <a href="#">Table 11-3</a> .                                                                                     |
| job_type  | No        | String           | Flink job template type. The default value is <b>flink_sql_job</b> . You can set this parameter to <b>flink_sql_job</b> or <b>flink_opensource_sql_job</b> only. |

**Table 11-3** tags parameter

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| key       | Yes       | String | Tag key.    |
| value     | Yes       | String | Tag key.    |

## Response

**Table 11-4** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                 |
|------------|-----------|---------|-----------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successful.                                |
| message    | No        | String  | Message content.                                                            |
| template   | No        | Object  | Information about job update. For details, see <a href="#">Table 11-5</a> . |

**Table 11-5 template** parameters

| Parameter   | Mandatory | Type   | Description                        |
|-------------|-----------|--------|------------------------------------|
| template_id | No        | Long   | Template ID.                       |
| name        | No        | String | Template name.                     |
| desc        | No        | String | Template description.              |
| create_time | No        | Long   | Time when the template is created. |
| job_type    | No        | String | Job template type                  |

### Example Request

```
{
 "name": "simple_stream_sql",
 "desc": "Example of quick start",
 "sql_body": "select * from source_table"
}
```

### Example Response

```
{
 "is_success": true,
 "message": "A template is created successfully.",
 "template": {
 "template_id": 0,
 "name": "IoT_example",
 "desc": "Example of quick start",
 "create_time": 1516952710040,
 "job_type": "flink_sql_job"
 }
}
```

### Status Codes

[Table 11-6](#) describes status codes.

**Table 11-6** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | A template is created successfully. |
| 400         | The input parameter is invalid.     |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 11.2 Updating a Template

### Function

This API is used to update existing templates in DLI.

### URI

- URI format  
PUT /v1.0/{project\_id}/streaming/job-templates/{template\_id}
- Parameter description

**Table 11-7** URI parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                               |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| template_id | Yes       | String | Template ID.                                                                                                                              |

### Request

**Table 11-8** Request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                  |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String | Template name. Length range: 0 to 57 characters.                                                                                             |
| desc      | No        | String | Template description. Length range: 0 to 512 characters.                                                                                     |
| sql_body  | No        | String | Stream SQL statement, which includes at least the following three parts: source, query, and sink. Length range: 0 to 1024 x 1024 characters. |



## Response

**Table 11-9** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |

## Example Request

```
{
 "name": "simple_stream_sql",
 "desc": "Example of quick start",
 "sql_body": "select * from source_table"
}
```

## Example Response

```
{
 "is_success": "true",
 "message": "The template is updated successfully."
}
```

## Status Codes

[Table 11-10](#) describes status codes.

**Table 11-10** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | A template is updated successfully. |
| 400         | The input parameter is invalid.     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 11.3 Deleting a Template

## Function

This API is used to delete a template. A template used by jobs can also be deleted.

## URI

- URI format  
DELETE /v1.0/{project\_id}/streaming/job-templates/{template\_id}
- Parameter description

**Table 11-11** URI parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                               |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| template_id | Yes       | String | Template ID.                                                                                                                              |

## Request

None

## Response

- Parameter description

**Table 11-12** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                  |
|------------|-----------|---------|----------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the response is successful. Value <b>true</b> indicates success.           |
| message    | No        | String  | Message content.                                                                             |
| template   | No        | Object  | Information about the template to be deleted. For details, see <a href="#">Table 11-13</a> . |

**Table 11-13** template parameters

| Parameter   | Mandatory | Type | Description  |
|-------------|-----------|------|--------------|
| template_id | No        | Long | Template ID. |

## Example Request

None

## Example Response

```
{
 "is_success": "true",
 "message": "The template is deleted successfully.",
 "template": {
 "template_id": 2
 }
}
```

## Status Codes

[Table 11-14](#) describes status codes.

**Table 11-14** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | A template is deleted successfully. |
| 400         | The input parameter is invalid.     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 11.4 Querying the Template List

## Function

This API is used to query the job template list. Currently, only custom templates can be queried.

## URI

- URI format  
GET /v1.0/{project\_id}/streaming/job-templates
- Parameter description

**Table 11-15** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 11-16** query parameter description

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                             |
|-----------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String  | Template name. Fuzzy query by name is supported.                                                                                                                                                                                                                        |
| tags      | No        | String  | List of tag names. The value is <b>k=v</b> for a single tag. Multiple tags are separated by commas (,). Example: <b>tag1=v1,tag2=v2</b> .                                                                                                                               |
| offset    | No        | Long    | Job offset.                                                                                                                                                                                                                                                             |
| limit     | No        | Integer | Number of returned data records. The default value is <b>10</b> .                                                                                                                                                                                                       |
| order     | No        | String  | Sorting style of the query results. <ul style="list-style-type: none"> <li><b>asc</b>: The query results are displayed in ascending order.</li> <li><b>desc</b>: The query results are displayed in the descending order.</li> </ul> The default value is <b>desc</b> . |

## Request

None

## Response

**Table 11-17** Response parameters

| Parameter     | Mandatory | Type    | Description                                                                         |
|---------------|-----------|---------|-------------------------------------------------------------------------------------|
| is_success    | No        | Boolean | Indicates whether the request is successful.                                        |
| message       | No        | String  | Message content.                                                                    |
| template_list | No        | Object  | Information about the template list. For details, see <a href="#">Table 11-18</a> . |

**Table 11-18** `template_list` parameters

| Parameter                | Mandatory | Type             | Description                                                                           |
|--------------------------|-----------|------------------|---------------------------------------------------------------------------------------|
| <code>total_count</code> | No        | Integer          | Total number of templates.                                                            |
| <code>templates</code>   | No        | Array of Objects | Detailed information about a template. For details, see <a href="#">Table 11-19</a> . |

**Table 11-19** `templates` parameters

| Parameter                | Mandatory | Type    | Description                                                                                       |
|--------------------------|-----------|---------|---------------------------------------------------------------------------------------------------|
| <code>template_id</code> | No        | Integer | Template ID.                                                                                      |
| <code>name</code>        | No        | String  | Template name.                                                                                    |
| <code>desc</code>        | No        | String  | Template description.                                                                             |
| <code>create_time</code> | No        | Long    | Time when the template is created.                                                                |
| <code>update_time</code> | No        | Long    | Time when the template is updated.                                                                |
| <code>sql_body</code>    | No        | String  | Stream SQL statement. Contains at least the <b>source</b> , <b>query</b> , and <b>sink</b> parts. |
| <code>job_type</code>    | No        | String  | Job template type.                                                                                |

## Example Request

None

## Example Response

```
{
 "is_success": "true",
 "message": "The template list is obtained successfully.",
 "template_list": {
 "total_count": 2,
 "templates": [
 {
 "template_id": 2,
 "name": "updatetest",
 "desc": "Example of quick start",
 "create_time": 1578748092000,
 "update_time": 1578748092000,
 "sql_body": "select * from source_table",
 "job_type": "flink_sql_job"
 }
]
 }
}
```

```
 },
 {
 "template_id": 1,
 "name": "we",
 "desc": "qwe",
 "create_time": 1577951045000,
 "update_time": 1577951045000,
 "sql_body": ""
 }
]
}
```

## Status Codes

[Table 11-20](#) describes status codes.

**Table 11-20** Status codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 200         | Template list query succeeds.   |
| 400         | The input parameter is invalid. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 12 APIs Related to Enhanced Datasource Connections

## 12.1 Creating an Enhanced Datasource Connection

### Function

This API is used to create an enhanced datasource connection with other services.

### URI

- URI format  
POST /v2.0/{project\_id}/datasource/enhanced-connections
- Parameter description

**Table 12-1** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 12-2** Request parameters

| Parameter       | Mandatory | Type             | Description                                                                                                                                                                                                       |
|-----------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name            | Yes       | String           | Name of the connection. <ul style="list-style-type: none"><li>The name can contain only letters, digits, and underscores (_), and cannot be left empty.</li><li>A maximum of 64 characters are allowed.</li></ul> |
| dest_vpc_id     | Yes       | String           | The ID of the service VPC to be connected.                                                                                                                                                                        |
| dest_network_id | Yes       | String           | The subnet ID of the to-be-connected service.                                                                                                                                                                     |
| queues          | No        | Array of Strings | List of queue names that are available for datasource connections.                                                                                                                                                |
| routetable_id   | No        | String           | Route table associated with the subnet of the service.                                                                                                                                                            |
| hosts           | No        | Array of Objects | The user-defined host information. A maximum of 20,000 records are supported. For details, see <a href="#">hosts request parameters</a> .                                                                         |
| tags            | No        | Array of Objects | Tags of datasource connections. For details, see <a href="#">Table 12-4</a> .                                                                                                                                     |

**Table 12-3** hosts request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                 |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String | The user-defined host name. The value can consist of 128 characters, including digits, letters, underscores (_), hyphens (-), and periods (.). It must start with a letter. |
| ip        | No        | String | The IPv4 address of the host.                                                                                                                                               |



**Table 12-4** tags parameter

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| key       | Yes       | String | Tag key.    |
| value     | Yes       | String | Tag key.    |

## Response

**Table 12-5** Response parameters

| Parameter     | Type    | Description                                                                                                                    |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success    | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message       | String  | System prompt. If execution succeeds, the message may be left blank.                                                           |
| connection_id | String  | Connection ID. Identifies the UUID of a datasource connection.                                                                 |

## Example Request

```
{
 "name": "test",
 "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
 "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
 "queues": [
 "q1",
 "q2"
],
 "hosts": [
 {
 "ip": "192.168.0.1",
 "name": "ecs-97f8-0001"
 },
 {
 "ip": "192.168.0.2",
 "name": "ecs-97f8-0002"
 }
]
}
```

## Example Response

```
{
 "is_success": true,
 "message": "Create peer connection for queues:{queue list in the request parameter}",
 "connection_id": "2a620c33-5609-40c9-affd-2b6453071b0f"
}
```

## Status Codes

[Table 12-6](#) describes the status code.

**Table 12-6** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 201         | The job is created successfully. |
| 400         | Request error.                   |
| 500         | Internal service error.          |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 12.2 Deleting an Enhanced Datasource Connection

## Function

This API is used to delete an enhanced datasource connection.

### NOTE

The connection that is being created cannot be deleted.

## URI

- URI format  
DELETE /v2.0/{project\_id}/datasource/enhanced-connections/{connection\_id}
- Parameter description

**Table 12-7** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                |
|---------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> .                                  |
| connection_id | Yes       | String | Connection ID. Identifies the UUID of a datasource connection. Set the value to the connection ID returned by <a href="#">Creating an Enhanced Datasource Connection</a> . |

## Request

None

## Response

**Table 12-8** Response parameters

| Parameter  | Type    | Description                                                                                                                    |
|------------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System message. Value <b>Deleted</b> indicates that the operation is successful.                                               |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "Deleted"
}
```

## Status Codes

[Table 12-9](#) describes the status code.

**Table 12-9** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Deletion succeeded.     |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 12.3 Querying an Enhanced Datasource Connection List

### Function

This API is used to query the list of created enhanced datasource connections.

### URI

- URI format  
GET /v2.0/{project\_id}/datasource/enhanced-connections
- Parameter description

**Table 12-10** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 12-11** query parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                               |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit     | No        | String | The maximum number of connections to be queried. The default value is <b>100</b> . If <b>limit</b> is set to <b>0</b> , all datasource connections are returned.                                                                                          |
| offset    | No        | String | The offset of the query result. The default value is <b>0</b> . Note that the connections are sorted by creation time.                                                                                                                                    |
| status    | No        | String | Connection status. The options are as follows: <ul style="list-style-type: none"><li>• Active: The connection has been activated.</li><li>• DELETED: The connection has been deleted.</li></ul> <b>NOTE</b><br>The connection status is case insensitive. |
| name      | No        | String | Connection name                                                                                                                                                                                                                                           |
| tags      | No        | String | List of tag names. The value is <b>k=v</b> for a single tag. Multiple tags are separated by commas (,). Example: <b>tag1=v1,tag2=v2</b> .                                                                                                                 |

 NOTE

The following is an example of the URL containing the **query** parameter:

```
GET /v2.0/{project_id}/datasource/enhanced-connections?
limit={limit}&offset={offset}&status={status}&name={name}
```

## Request

None

## Response

**Table 12-12** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                                    |
|-------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success  | No        | Boolean          | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message     | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| connections | No        | Array of Objects | Datasource connection information list. For details, see <a href="#">Table 12-13</a> .                                         |
| count       | No        | Integer          | Number of returned datasource connections.                                                                                     |

**Table 12-13** connections parameters

| Parameter            | Mandatory | Type             | Description                                                                                                                                                                                    |
|----------------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                   | No        | String           | Connection ID. Identifies the UUID of a datasource connection.                                                                                                                                 |
| name                 | No        | String           | User-defined connection name.                                                                                                                                                                  |
| status               | No        | String           | Connection status. The options are as follows: <ul style="list-style-type: none"> <li>Active: The connection has been activated.</li> <li>DELETED: The connection has been deleted.</li> </ul> |
| available_queue_info | No        | Array of Objects | For details about how to create a datasource connection for each queue, see <a href="#">Table 12-14</a> .                                                                                      |

| Parameter       | Mandatory | Type             | Description                                                                                                                                                                                                                 |
|-----------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dest_vpc_id     | No        | String           | The VPC ID of the connected service.                                                                                                                                                                                        |
| dest_network_id | No        | String           | Subnet ID of the connected service.                                                                                                                                                                                         |
| isPrivis        | No        | Boolean          | Whether the project permissions have been granted for the enhanced datasource connection. If the datasource connection has the permissions, the value of this field is <b>false</b> . Otherwise, the value is <b>true</b> . |
| create_time     | No        | Long             | Time when a link is created. The time is converted to a UTC timestamp.                                                                                                                                                      |
| hosts           | No        | Array of Objects | User-defined host information. For details, see <a href="#">Table 12-20</a> .                                                                                                                                               |

**Table 12-14** available\_queue\_info parameter description

| Parameter   | Mandatory | Type   | Description                                                                             |
|-------------|-----------|--------|-----------------------------------------------------------------------------------------|
| peer_id     | No        | String | ID of a datasource connection.                                                          |
| status      | No        | String | Connection status. For details about the status code, see <a href="#">Table 12-15</a> . |
| name        | No        | String | Name of a queue.                                                                        |
| err_msg     | No        | String | Detailed error message when the status is <b>FAILED</b> .                               |
| update_time | No        | Long   | Time when the available queue list was updated.                                         |

**Table 12-15** Connection status

| Parameter | Definition | Description                                                                                          |
|-----------|------------|------------------------------------------------------------------------------------------------------|
| CREATING  | Creating   | The datasource connection is being created.                                                          |
| ACTIVE    | Active     | The datasource connection has been created, and the connection to the destination address is normal. |

| Parameter | Definition | Description                               |
|-----------|------------|-------------------------------------------|
| FAILED    | Failed     | Failed to create a datasource connection. |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "",
 "count": 1,
 "connections": [
 {
 "name": "withvpc",
 "id": "4c693ecc-bab8-4113-a838-129cedc9a563",
 "available_queue_info": [
 {
 "status": "ACTIVE",
 "name": "resource_mode_1",
 "peer_id": "d2ae6628-fa37-4e04-806d-c59c497492d1",
 "err_msg": "",
 "update_time": 1566889577861
 }
]
 }
],
 "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
 "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
 "isPrivis": true,
 "create_time": 1566888011125,
 "status": "ACTIVE"
}
```

## Status Codes

[Table 12-16](#) describes the status code.

**Table 12-16** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 12.4 Querying an Enhanced Datasource Connection

### Function

This API is used to query the created enhanced datasource connections.

### URI

- URI format  
GET /v2.0/{project\_id}/datasource/enhanced-connections/{connection\_id}
- Parameter description

**Table 12-17** URI parameter

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| connection_id | Yes       | String | Connection ID. Identifies the UUID of a datasource connection.                                                                            |

### Request

None

### Response

**Table 12-18** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| id         | No        | String  | Connection ID. Identifies the UUID of a datasource connection.                                                                 |
| name       | No        | String  | User-defined connection name.                                                                                                  |



| Parameter            | Mandatory | Type             | Description                                                                                                                                                                                    |
|----------------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status               | No        | String           | Connection status. The options are as follows: <ul style="list-style-type: none"> <li>Active: The connection has been activated.</li> <li>DELETED: The connection has been deleted.</li> </ul> |
| available_queue_info | No        | Array of Objects | For details about how to create a datasource connection for each queue, see <a href="#">Table 12-19</a> .                                                                                      |
| dest_vpc_id          | No        | String           | The VPC ID of the connected service.                                                                                                                                                           |
| dest_network_id      | No        | String           | Subnet ID of the connected service.                                                                                                                                                            |
| create_time          | No        | Long             | Time when a link is created. The time is converted to a UTC timestamp.                                                                                                                         |
| hosts                | No        | Array of Objects | User-defined host information. For details, see <a href="#">hosts parameter description</a> .                                                                                                  |

**Table 12-19 available\_queue\_info** parameter description

| Parameter   | Mandatory | Type   | Description                                                                             |
|-------------|-----------|--------|-----------------------------------------------------------------------------------------|
| peer_id     | No        | String | ID of a datasource connection.                                                          |
| status      | No        | String | Connection status. For details about the status code, see <a href="#">Table 12-21</a> . |
| name        | No        | String | Name of a queue.                                                                        |
| err_msg     | No        | String | Detailed error message when the status is <b>FAILED</b> .                               |
| update_time | No        | Long   | Time when the available queue list was updated.                                         |

**Table 12-20 hosts** parameter description

| Parameter | Mandatory | Type   | Description                   |
|-----------|-----------|--------|-------------------------------|
| name      | No        | String | The user-defined host name.   |
| ip        | No        | String | The IPv4 address of the host. |

**Table 12-21** Connection status

| Parameter | Definition | Description                                                                                          |
|-----------|------------|------------------------------------------------------------------------------------------------------|
| CREATING  | Creating   | The datasource connection is being created.                                                          |
| ACTIVE    | Active     | The datasource connection has been created, and the connection to the destination address is normal. |
| FAILED    | Failed     | Failed to create a datasource connection.                                                            |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "",
 "name": "withvpc",
 "id": "4c693ecc-bab8-4113-a838-129cedc9a563",
 "available_queue_info": [
 {
 "status": "ACTIVE",
 "name": "resource_mode_1",
 "peer_id": "d2ae6628-fa37-4e04-806d-c59c497492d1",
 "err_msg": "",
 "update_time": 1566889577861
 }
],
 "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
 "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
 "create_time": 1566888011125,
 "status": "ACTIVE",
 "hosts": [
 {
 "ip": "192.168.0.1",
 "name": "ecs-97f8-0001"
 },
 {
 "ip": "192.168.0.2",
 "name": "ecs-97f8-0002"
 }
]
}
```

## Status Codes

[Table 12-22](#) describes the status code.

**Table 12-22** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 12.5 Binding a Queue

## Function

This API is used to bind a queue to a created enhanced datasource connection.

## URI

- URI format  
POST /v2.0/{project\_id}/datasource/enhanced-connections/{connection\_id}/associate-queue
- Parameter description

**Table 12-23** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                |
|---------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> .                                  |
| connection_id | Yes       | String | Connection ID. Identifies the UUID of a datasource connection. Set the value to the connection ID returned by <a href="#">Creating an Enhanced Datasource Connection</a> . |

## Request

**Table 12-24** Request parameters

| Parameter | Mandatory | Type             | Description                                                        |
|-----------|-----------|------------------|--------------------------------------------------------------------|
| queues    | Yes       | Array of Strings | List of queue names that are available for datasource connections. |

## Response

**Table 12-25** Response parameters

| Parameter  | Type    | Description                                                                                                                    |
|------------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If execution succeeds, the message may be left blank.                                                           |

## Example Request

```
{
 "queues": [
 "q1",
 "q2"
]
}
```

## Example Response

```
{
 "is_success": true,
 "message": "associated peer connection for queues: {q1,q2}."
}
```

## Status Codes

[Table 12-26](#) describes the status code.

**Table 12-26** Status codes

| Status Code | Description               |
|-------------|---------------------------|
| 200         | Resource bound succeeded. |
| 400         | Request error.            |
| 500         | Internal service error.   |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 12.6 Unbinding a Queue

## Function

This API is used to unbind a queue from an enhanced datasource connection.

## URI

- URI format  
POST /v2.0/{project\_id}/datasource/enhanced-connections/{connection\_id}/disassociate-queue
- Parameter description

**Table 12-27** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| connection_id | Yes       | String | Connection ID. Identifies the UUID of a datasource connection.                                                                            |

## Request

**Table 12-28** Request parameters

| Parameter | Mandatory | Type            | Description                                                        |
|-----------|-----------|-----------------|--------------------------------------------------------------------|
| queues    | Yes       | Array of String | List of queue names that are available for datasource connections. |

## Response

**Table 12-29** Response parameters

| Parameter  | Type    | Description                                                                                                                    |
|------------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If execution succeeds, the message may be left blank.                                                           |

## Example Request

```
{
 "queues": [
 "q1",
 "q2"
]
}
```

## Example Response

```
{
 "is_success": true,
 "message": "Disassociated peer connection for queues:{q1,q2}."
}
```

## Status Codes

[Table 12-30](#) describes the status code.

**Table 12-30** Status codes

| Status Codes | Description                 |
|--------------|-----------------------------|
| 200          | Resource unbound succeeded. |
| 400          | Request error.              |
| 500          | Internal service error.     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

## 12.7 Modifying the Host Information

### Function

This API is used to modify the host information of a connected datasource. Only full overwriting is supported.

### URI

- URI format  
PUT /v2.0/{project\_id}/datasource/enhanced-connections/{connection\_id}
- Parameter description

**Table 12-31** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| connection_id | Yes       | String | Connection ID. Identifies the UUID of a datasource connection.                                                                            |

### Request

**Table 12-32** Request parameters

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                 |
|-----------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| hosts     | Yes       | Array of objects | The user-defined host information. A maximum of 20,000 records are supported. For details, see <a href="#">hosts request parameters</a> . If this parameter is left blank, all configured host information will be deleted. |

**Table 12-33** hosts request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                 |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String | The user-defined host name. The value can consist of 128 characters, including digits, letters, underscores (_), hyphens (-), and periods (.). It must start with a letter. |
| ip        | No        | String | The IPv4 address of the host.                                                                                                                                               |

## Response

**Table 12-34** Response parameters

| Parameter  | Type    | Description                                                                                                                    |
|------------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If execution succeeds, the message may be left blank.                                                           |

## Example Request

```
{
 "hosts": [
 {
 "ip": "192.168.0.1",
 "name": "ecs-97f8-0001"
 },
 {
 "ip": "192.168.0.2",
 "name": "ecs-97f8-0002"
 }
]
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 12-35](#) describes the status code.



**Table 12-35** Status codes

| Status Code | Description                                 |
|-------------|---------------------------------------------|
| 200         | The modification operations are successful. |
| 400         | Request error.                              |
| 500         | Internal service error.                     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

# 12.8 Querying Authorization of an Enhanced Datasource Connection

## Function

This API is used to query the authorization about an enhanced datasource connection.

## URI

- URI format  
GET /v2.0/{project\_id}/datasource/enhanced-connections/{connection\_id}/privileges
- Parameter description

**Table 12-36** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| connection_id | Yes       | String | Connection ID. Identifies the UUID of a datasource connection.                                                                            |

## Request

None

## Response

**Table 12-37** Response parameters

| Parameter     | Mandatory | Type            | Description                                                                                                          |
|---------------|-----------|-----------------|----------------------------------------------------------------------------------------------------------------------|
| is_success    | No        | Boolean         | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message       | No        | String          | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |
| connection_id | No        | String          | Enhanced datasource connection ID, which is used to identify the UUID of a datasource connection.                    |
| privileges    | No        | Array of Object | Datasource connection information about each authorized project. For details, see <a href="#">Table 12-38</a> .      |

**Table 12-38** privileges parameters

| Parameter            | Mandatory | Type             | Description                              |
|----------------------|-----------|------------------|------------------------------------------|
| object               | No        | String           | Object information during authorization. |
| applicant_project_id | No        | String           | ID of an authorized project.             |
| privileges           | No        | Array of Strings | Authorization operation information.     |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "",
 "privileges": [
 {
 "object": "edsconnections.503fc86a-5e60-4349-92c2-7e399404fa8a",
 "applicant_project_id": "330e068af1334c9782f4226acc00a2e2",
 "privileges": ["BIND_QUEUE"]
 }
],
}
```

```
"connection_id": "503fc86a-5e60-4349-92c2-7e399404fa8a"
}
```

## Status Codes

[Table 12-39](#) describes status codes.

**Table 12-39** Status codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 200         | The query is successful.        |
| 400         | The input parameter is invalid. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

**Table 12-40** Error codes

| Error Code | Error Message                                                   |
|------------|-----------------------------------------------------------------|
| DLI.0001   | Connection 503fc86a-5e60-4349-92c2-7e399404fa8a does not exist. |

# 13 Global Variable-related APIs

---

## 13.1 Creating a Global Variable

### Function

This API is used to create a global variable.

### URI

- URI format  
POST /v1.0/{project\_id}/variables
- Parameter description

**Table 13-1** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 13-2** Request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                          |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| var_name  | Yes       | String | A global variable name can contain a maximum of 128 characters, including only digits, letters, and underscores (_), but cannot start with an underscore (_) or contain only digits. |
| var_value | Yes       | String | Global variable value.                                                                                                                                                               |

## Response

**Table 13-3** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                               |

## Example Request

```
{
 "var_name": "string",
 "var_value": "string"
}
```

## Example Response

```
{
 "is_success": true,
 "message": "string"
}
```

## Status Codes

[Table 13-4](#) describes status codes.

**Table 13-4** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | A variable is created successfully. |

| Status Code | Description                     |
|-------------|---------------------------------|
| 400         | The input parameter is invalid. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

**Table 13-5** Error codes

| Error Code | Error Message                 |
|------------|-------------------------------|
| DLI.0001   | Parameter check errors occur. |
| DLI.0999   | The object exists.            |

## 13.2 Deleting a Global Variable

### Function

This API is used to delete a global variable.

 **NOTE**

Only the user who creates a global variable can delete the variable.

### URI

- URI format  
DELETE /v1.0/{project\_id}/variables/{var\_name}
- Parameter description

**Table 13-6** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                          |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> .                                            |
| var_name   | Yes       | String | A global variable name can contain a maximum of 128 characters, including only digits, letters, and underscores (_), but cannot start with an underscore (_) or contain only digits. |

## Request

None

## Response

- Parameter description

**Table 13-7** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "string"
}
```

## Status Codes

[Table 13-8](#) describes status codes.

**Table 13-8** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | A variable is deleted successfully. |
| 400         | The input parameter is invalid.     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

**Table 13-9** Error codes

| Error Code | Error Message                 |
|------------|-------------------------------|
| DLI.0001   | Parameter check errors occur. |
| DLI.0999   | Server-side errors occur.     |

## 13.3 Modifying a Global Variable

### Function

This API is used to modify a global variable.

### URI

- URI format  
PUT /v1.0/{project\_id}/variables/{var\_name}
- Parameter description

**Table 13-10** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                          |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> .                                            |
| var_name   | Yes       | String | A global variable name can contain a maximum of 128 characters, including only digits, letters, and underscores (_), but cannot start with an underscore (_) or contain only digits. |



## Request

**Table 13-11** Request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                           |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| var_name  | No        | String | A global variable name can contain a maximum of 128 characters, including only digits, letters, and underscores (_), but cannot start with an underscore (_) or contain only digits.<br><br>Note: If this parameter is configured, the value in the request must be the same as that in <a href="#">Table 13-10</a> . |
| var_value | Yes       | String | Global variable value.                                                                                                                                                                                                                                                                                                |

## Response

**Table 13-12** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                               |

## Example Request

```
{
 "var_name": "string",
 "var_value": "string"
}
```

## Example Response

```
{
 "is_success": true,
 "message": "string"
}
```

## Status Codes

[Table 13-13](#) describes status codes.

**Table 13-13** Status codes

| Status Code | Description                          |
|-------------|--------------------------------------|
| 200         | A variable is modified successfully. |
| 400         | The input parameter is invalid.      |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

**Table 13-14** Error codes

| Error Code | Error Message                                             |
|------------|-----------------------------------------------------------|
| DLI.0001   | Parameter check errors occur.                             |
| DLI.0999   | Server-side errors occur.                                 |
| DLI.12004  | The job does not exist. Check the reason or create a job. |

## 13.4 Querying All Global Variables

### Function

This API is used to query information about all global variables in the current project.

### URI

- URI format  
GET /v1.0/{project\_id}/variables
- Parameter description

**Table 13-15** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 13-16 query** parameter description

| Parameter | Mandatory | Type    | Description                                                                          |
|-----------|-----------|---------|--------------------------------------------------------------------------------------|
| limit     | No        | Integer | Number of returned records displayed on each page. The default value is <b>100</b> . |
| offset    | No        | Integer | Offset. The default value is <b>0</b> .                                              |

## Request

None

## Response

**Table 13-17 Response** parameters

| Parameter   | Mandatory | Type             | Description                                                                                                          |
|-------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------|
| is_success  | No        | Boolean          | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message     | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |
| count       | No        | Integer          | Number of global variables.                                                                                          |
| global_vars | No        | Array of Objects | Global variable information. For details, see <a href="#">Table 13-18</a> .                                          |

**Table 13-18 global\_vars** parameters

| Parameter  | Mandatory | Type   | Description            |
|------------|-----------|--------|------------------------|
| id         | No        | Long   | Global variable ID.    |
| var_name   | Yes       | String | Global variable name.  |
| var_value  | Yes       | String | Global variable value. |
| project_id | No        | String | Project ID.            |
| user_id    | No        | String | User ID.               |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "string",
 "count": 0,
 "global_vars": [
 {
 "id": 0,
 "var_name": "string",
 "var_value": "string",
 "project_id": "string",
 "user_id": "string"
 }
]
}
```

## Status Codes

**Table 13-19** Status codes

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 200         | All variables are queried successfully. |
| 400         | The input parameter is invalid.         |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Code](#).

**Table 13-20** Error codes

| Error Code | Error Message                 |
|------------|-------------------------------|
| DLI.0001   | Parameter check errors occur. |
| DLI.0999   | Server-side errors occur.     |

# 14 Public Parameters

## 14.1 Status Codes

[Table 14-1](#) describes status codes.

**Table 14-1** Status codes

| Status Code | Message                       | Description                                                                                                                                                                                |
|-------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 100         | Continue                      | The client should continue with its request.<br>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.<br>For example, the current HTTP protocol is switched to a later version of HTTP.                  |
| 200         | Success                       | The request has been fulfilled. This indicates that the server has provided the requested web page.                                                                                        |
| 201         | Created                       | The request is successful and the server has created a new resource.                                                                                                                       |
| 202         | Accepted                      | The request has been accepted, but the processing has not been completed.                                                                                                                  |
| 203         | Non-Authoritative Information | Unauthorized information. The request is successful.                                                                                                                                       |

| Stat<br>us<br>Cod<br>e | Message           | Description                                                                                                                                                                                                                       |
|------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 204                    | NoContent         | The server has successfully processed the request, but does not return any content.<br>The status code is returned in response to an HTTP OPTIONS request.                                                                        |
| 205                    | Reset Content     | The server has successfully processed the request, but does not return any 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 a user terminal (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.                                                                                                                       |
| 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,<br>and should be retrieved using a GET or POST method.                                                                                                            |
| 304                    | Not Modified      | The requested resource has not been modified. In such a case, there is no need to retransmit the resource since the client still has a previously-downloaded copy.                                                                |
| 305                    | Use Proxy         | The requested resource is available only through a proxy.                                                                                                                                                                         |
| 306                    | Unused            | The HTTP status code is no longer used.                                                                                                                                                                                           |
| 400                    | BadRequest        | Invalid request.<br>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.                                                                                                                                                                                      |

| Stat<br>us<br>Cod<br>e | Message                       | Description                                                                                                                                                                                                                                                                                                                                   |
|------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 403                    | Forbidden                     | The server has received the request and understood it, but the server is refusing to respond to it.<br>The client should modify the request instead of re-initiating it.                                                                                                                                                                      |
| 404                    | NotFound                      | The requested resource cannot be found.<br>The client should not repeat the request without modifications.                                                                                                                                                                                                                                    |
| 405                    | MethodNotAllowed              | A request method is not supported for the requested resource.<br>The client should not repeat the request without modifications.                                                                                                                                                                                                              |
| 406                    | Not Acceptable                | The server could not fulfill the request according to the content characteristics of the request.                                                                                                                                                                                                                                             |
| 407                    | Proxy Authentication Required | This code is similar to 401, but indicates that the client must first authenticate itself with the proxy.                                                                                                                                                                                                                                     |
| 408                    | Request Time-out              | The server has timed out waiting for the request.<br>The client may repeat the request without modifications at any time later.                                                                                                                                                                                                               |
| 409                    | Conflict                      | The request could not be processed due to a conflict in the request.<br>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 cannot be found.<br>The status code indicates that the requested resource has been deleted permanently.                                                                                                                                                                                                                |
| 411                    | Length Required               | The server is refusing to process the request without a defined <b>Content-Length</b> .                                                                                                                                                                                                                                                       |
| 412                    | Precondition Failed           | The server does not meet one of the preconditions that the requester puts 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 disable the connection to prevent the client from sending requests consecutively. If the server is only temporarily unable to process the request, the response will contain a <b>Retry-After</b> header field. |

| Status Code | Message                         | Description                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 414         | Request-URI Too Large           | The Request-URI is too long for the server to process.                                                                                                                                                                                                                                                                                                                         |
| 415         | Unsupported Media Type          | The server does not support the media type 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 <b>Expect</b> request-header field.                                                                                                                                                                                                                                                                                      |
| 422         | UnprocessableEntity             | The request was well-formed but was unable to be followed due to semantic errors.                                                                                                                                                                                                                                                                                              |
| 429         | TooManyRequests                 | The client sends excessive requests to the server within a given time (exceeding the limit on the access frequency of the client), or the server receives excessive requests within a given time (beyond its processing capability). In this case, the client should resend the request after the time specified in the <b>Retry-After</b> 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 requested function.                                                                                                                                                                                                                                                                                                                            |
| 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.<br>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 when the <b>Timeout</b> parameter is specified in the request.                                                                                                                                                                                                            |
| 505         | HTTP Version not supported      | The server does not support the HTTP protocol version used in the request.                                                                                                                                                                                                                                                                                                     |

## 14.2 Error Code

If an error occurs in API calling, no result is returned. Identify the cause of error 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 technical personnel and provide the error code so that we can help you solve the problem as soon as possible.

## Format of an Error Response Body

If an error occurs during API calling, the system returns an error code and a message to you. The following shows the format of an error response body:

```
{
 "error_msg": "The format of message is error",
 "error_code": "DLI.0001"
}
```

In the preceding information, **error\_code** is an error code, and **error\_msg** describes the error.

**Table 14-2** Exceptions

| Parameter  | Parameter Type | Description                                               |
|------------|----------------|-----------------------------------------------------------|
| error_code | String         | Error code. For details, see <a href="#">Table 14-3</a> . |
| error_msg  | String         | Error details.                                            |

## Error Code Description

**Table 14-3** Error codes

| Status Code | Error Code | Error Message                       |
|-------------|------------|-------------------------------------|
| 400         | DLI.0001   | Parameter check errors occur.       |
| 400         | DLI.0002   | The object does not exist.          |
| 400         | DLI.0003   | SQL permission verification fails.  |
| 400         | DLI.0004   | SQL syntax parsing errors occur.    |
| 400         | DLI.0005   | SQL semantics parsing errors occur. |
| 400         | DLI.0006   | The object exists.                  |
| 400         | DLI.0007   | The operation is not supported.     |
| 400         | DLI.0008   | Metadata errors occur.              |
| 400         | DLI.0009   | System restrictions.                |
| 400         | DLI.0011   | The file permission check fails.    |

| Status Code | Error Code | Error Message                        |
|-------------|------------|--------------------------------------|
| 400         | DLI.0012   | Resource objects are unavailable.    |
| 401         | DLI.0013   | User authentication errors occur.    |
| 401         | DLI.0014   | Service authentication errors occur. |
| 400         | DLI.0015   | Token parsing error.                 |
| 400         | DLI.0016   | The identity and role are incorrect. |
| 400         | DLI.0018   | Data conversion errors occur.        |
| 400         | DLI.0019   | The task times out.                  |
| 400         | DLI.0100   | The result expires.                  |
| 404         | DLI.0023   | No related resources were found.     |
| 400         | DLI.0999   | Server-side errors occur.            |
| 400         | DLI.1028   | The quota is insufficient.           |

## Example

If no queue named **testqueue** exists, the following error message is displayed when you submit a job submission request:

```
{
 "error_code": "DLI.0002",
 "error_msg": "There is no queue named testqueue"
}
```

## 14.3 Obtaining a Project ID

### Scenario

A project ID is required for some URLs when an API is called. Obtain a project ID using either of the following methods:

- [Obtain the Project ID by Calling an API](#)
- [Obtain the Project ID from the Console](#)

### Obtaining a Project ID by Calling an API

You can obtain a project ID by calling an API.

```
{
 "projects": [

```

```
{
 "domain_id": "65382450e8f64ac0870cd180d14e684b",
 "is_domain": false,
 "parent_id": "65382450e8f64ac0870cd180d14e684b",
 "name": "project_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"
}
}
```

## Obtaining a Project ID from the Management Console

To obtain a project ID from the Console, perform the following operations:

1. Log in to the management console.
2. Click the username and select **My Credentials** from the drop-down list.

On the **My Credentials** page, view the project IDs in the project list.

## 14.4 Obtaining an Account ID

An account ID (domain-id) is required for some URLs when an API is called. To obtain an account ID, perform the following operations:

1. 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, view **Account ID**.

# A Change History

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**Table A-1** Change History

| Released On | Description                                                                                                                                          |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2022-12-06  | <ul style="list-style-type: none"><li>Updated descriptions about <b>privileges</b> in <a href="#">Querying a User's Table Permissions</a>.</li></ul> |